



Val Phe Trp His Ile Ser His Asn Arg Leu Glu Asn Ile Ser Val Arg  
 340 345 350  
 Asp Phe Val Cys Ser Tyr Lys Tyr Gln Glu Tyr Phe Gly Pro Lys Pro  
 355 360 365  
 Phe Pro Arg Trp Arg Val Gln Ile Leu Glu Trp Arg Gly Tyr Val Lys  
 370 375 380  
 Lys Glu Gln Asp Tyr Tyr Arg Leu Thr Lys Lys Gly Arg Ser Glu Ala  
 385 390 395 400  
 Leu Arg Leu Val Arg Ala His Arg Leu Trp Glu Ser Tyr Leu Val Asn  
 405 410 415  
 Ser Leu Asp Phe Ser Lys Glu Ser Val His Glu Leu Ala Glu Glu Ile  
 420 425 430  
 Glu His Val Leu Thr Glu Glu Leu Asp His Thr Leu Thr Glu Ile Leu  
 435 440 445  
 Asn Asp Pro Cys Tyr Asp Pro His Arg Gln Ile Ile Pro Asn Lys Lys  
 450 455 460  
 Lys Glu Val  
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<210> 350  
 <211> 263  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 350  
 Glu Gly Trp Leu Leu Asn Val Lys Asp Glu Thr Phe Trp Ser Val His  
 1 5 10 15  
 Asn Leu Cys Val Asn Tyr Glu His Ala Ala Val Leu Tyr His Ile Ser  
 20 25 30  
 Phe Ser Leu Gly Lys Gly Ser Leu Thr Ala Ile Leu Gly Pro Asn Gly  
 35 40 45  
 Ala Gly Lys Ser Thr Leu Leu Lys Ala Ser Leu Gly Leu Ile Lys Pro  
 50 55 60  
 Ser Ser Gly Thr Val Tyr Phe Phe Asn Gln Lys Phe Lys Lys Val Arg  
 65 70 75 80  
 Gln Arg Ile Ala Tyr Met Pro Gln Arg Ala Ser Val Asp Trp Asp Phe  
 85 90 95  
 Pro Met Thr Val Leu Asp Leu Ala Leu Met Gly Cys Tyr Ser Tyr Lys  
 100 105 110  
 Gly Met Trp Gly Arg Ile Ser Ser Asp Asp Arg Arg Glu Ala Phe His  
 115 120 125  
 Ile Leu Glu Arg Val Gly Leu Glu Ser Val Ala Asp Arg Gln Ile Gly  
 130 135 140  
 Gln Leu Ser Gly Gly Gln Gln Gln Arg Ala Phe Leu Ala Arg Ala Leu  
 145 150 155 160  
 Met Gln Lys Ala Asp Leu Tyr Leu Met Asp Glu Leu Phe Ser Ala Ile  
 165 170 175  
 Asp Met Ala Ser Phe Lys Thr Ser Val Gly Val Leu Gln Glu Leu Arg  
 180 185 190  
 Asp Gln Gly Lys Thr Ile Val Val Val His His Asp Leu Ser His Val  
 195 200 205  
 Arg Gln Leu Phe Asp His Val Val Leu Leu Asn Lys Arg Leu Ile Cys  
 210 215 220  
 Cys Gly Pro Thr Asp Glu Cys Leu Asn Gly Asp Thr Ile Phe Gln Thr  
 225 230 235 240  
 Tyr Gly Cys Glu Ile Glu Leu Leu Glu Gln Thr Leu Lys Leu Ser Arg  
 245 250 255  
 Gly Lys Gln Phe Gly Ser Cys  
 260



<210> 351  
 <211> 336  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 351  
 Trp Ile Leu Lys Asn Ala Ser Arg Glu Met Asp Ala Lys Met Gly Tyr  
 1 5 10 15  
 Ile Phe Lys Val Met Arg Trp Ile Phe Cys Phe Val Ala Cys Gly Ile  
 20 25 30  
 Thr Phe Gly Cys Thr Asn Ser Gly Phe Gln Asn Ala Asn Ser Arg Pro  
 35 40 45  
 Cys Ile Leu Ser Met Asn Arg Met Ile His Asp Cys Val Glu Arg Val  
 50 55 60  
 Val Gly Asn Arg Leu Ala Thr Ala Val Leu Ile Lys Gly Ser Leu Asp  
 65 70 75 80  
 Pro His Ala Tyr Glu Met Val Lys Gly Asp Lys Asp Lys Ile Ala Gly  
 85 90 95  
 Ser Ala Val Ile Phe Cys Asn Gly Leu Gly Leu Glu His Thr Leu Ser  
 100 105 110  
 Leu Arg Lys His Leu Glu Asn Asn Pro Asn Ser Val Lys Leu Gly Glu  
 115 120 125  
 Arg Leu Ile Ala Arg Gly Ala Phe Val Pro Leu Glu Glu Asp Gly Ile  
 130 135 140  
 Cys Asp Pro His Ile Trp Met Asp Leu Ser Ile Trp Lys Glu Ala Val  
 145 150 155 160  
 Ile Glu Ile Thr Glu Val Leu Ile Glu Lys Phe Pro Glu Trp Ser Ala  
 165 170 175  
 Glu Phe Lys Ala Asn Ser Glu Glu Leu Val Cys Glu Met Ser Ile Leu  
 180 185 190  
 Asp Ser Trp Ala Lys Gln Cys Leu Ser Thr Ile Pro Glu Asn Leu Arg  
 195 200 205  
 Tyr Leu Val Ser Gly His Asn Ala Phe Ser Tyr Phe Thr Arg Arg Tyr  
 210 215 220  
 Leu Ala Thr Pro Glu Glu Val Ala Ser Gly Ala Trp Arg Ser Arg Cys  
 225 230 235 240  
 Ile Ser Pro Glu Gly Leu Ser Pro Glu Ala Gln Ile Ser Val Arg Asp  
 245 250 255  
 Ile Met Ala Val Val Asp Tyr Ile Asn Glu His Asp Val Ser Val Val  
 260 265 270  
 Phe Pro Glu Asp Thr Leu Asn Gln Asp Ala Leu Lys Lys Ile Val Ser  
 275 280 285  
 Ser Leu Lys Lys Ser His Leu Val Arg Leu Ala Gln Lys Pro Leu Tyr  
 290 295 300  
 Ser Asp Asn Val Asp Asp Asn Tyr Phe Ser Thr Phe Lys His Asn Val  
 305 310 315 320  
 Cys Leu Ile Thr Glu Glu Leu Gly Gly Val Ala Leu Glu Cys Gln Arg  
 325 330 335

<210> 352  
 <211> 172  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 352  
 Glu Val Gly Phe Met Ala Val Glu Gln Ser His Ile Lys Glu Glu Ile  
 1 5 10 15  
 Glu Lys Leu Ile Gly Lys Ala Ile Lys Arg Val Cys Gly Asn Lys Glu  
 20 25 30  
 Asn Asp Leu Cys Arg Tyr Leu Pro Gly Pro Ser Gly Gly Tyr Met His  
 35 40 45

His	Phe	Thr	Leu	Lys	Lys	Met	Lys	Ser	Ala	Ala	Pro	Glu	Gln	Leu	Leu
50						55					60				
Lys	Met	Leu	Lys	Thr	Phe	Ile	Leu	Glu	Ser	Glu	Thr	Pro	Arg	Thr	Ile
65					70					75					80
Asn	Pro	Lys	Pro	Arg	Ala	Pro	Arg	Gly	Ser	Lys	Lys	Arg	Arg	Asp	Phe
				85					90					95	
Ile	Asn	Phe	Thr	Lys	Thr	Asp	Ile	Glu	Arg	Val	Leu	Glu	Leu	Ala	Arg
			100					105					110		
Gln	Val	Gly	Asp	Lys	Asp	Leu	Leu	Ala	Arg	Phe	Ser	Pro	Lys	Lys	Pro
		115					120					125			
Leu	Thr	Ser	Leu	Lys	Arg	Glu	Leu	Ile	Arg	Ser	Ile	Arg	Asn	Gly	Ile
	130					135					140				
Val	Ser	Val	Glu	Leu	Trp	Asn	Ala	Tyr	Val	Glu	Ala	Val	Lys	Ala	Val
145					150					155					160
Ser	Ser	Pro	Asn	Leu	Glu	Val	Thr	Ser	Pro	Phe	Val				
				165					170						

<210> 353

<211> 524

<212> PRT

<213> Chlamydia pneumoniae

<400> 353

Lys	Ile	Lys	Val	Phe	Gln	Arg	Val	Asn	Met	Thr	Lys	Thr	Glu	Glu	Lys
1				5					10					15	
Pro	Phe	Gly	Lys	Leu	Arg	Ser	Phe	Leu	Trp	Pro	Ile	His	Thr	His	Glu
			20					25					30		
Leu	Lys	Lys	Val	Leu	Pro	Met	Phe	Leu	Met	Phe	Phe	Cys	Ile	Thr	Phe
		35					40					45			
Asn	Tyr	Thr	Val	Leu	Arg	Asp	Thr	Lys	Asp	Thr	Leu	Ile	Val	Gly	Ala
50						55					60				
Pro	Gly	Ser	Gly	Ala	Glu	Ala	Ile	Pro	Phe	Ile	Lys	Phe	Trp	Leu	Val
65					70					75					80
Val	Pro	Cys	Ala	Ile	Ile	Phe	Met	Leu	Ile	Tyr	Ala	Lys	Leu	Ser	Asn
				85				90					95		
Ile	Leu	Ser	Lys	Gln	Ala	Leu	Phe	Tyr	Ala	Val	Gly	Thr	Pro	Phe	Leu
			100					105					110		
Ile	Phe	Phe	Ala	Leu	Phe	Pro	Thr	Val	Ile	Tyr	Pro	Leu	Arg	Asp	Val
	115						120					125			
Leu	His	Pro	Thr	Glu	Phe	Ala	Asp	Arg	Leu	Gln	Ala	Ile	Leu	Pro	Pro
	130					135					140				
Gly	Leu	Leu	Gly	Leu	Val	Ala	Ile	Leu	Arg	Asn	Trp	Thr	Phe	Ala	Ala
145					150					155					160
Phe	Tyr	Val	Leu	Ala	Glu	Leu	Trp	Gly	Ser	Val	Met	Leu	Ser	Leu	Met
				165				170						175	
Phe	Trp	Gly	Phe	Ala	Asn	Glu	Ile	Thr	Lys	Ile	His	Glu	Ala	Lys	Arg
			180					185					190		
Phe	Tyr	Ala	Leu	Phe	Gly	Ile	Gly	Ala	Asn	Ile	Ser	Leu	Leu	Ala	Ser
	195						200					205			
Gly	Arg	Ala	Ile	Val	Trp	Ala	Ser	Lys	Leu	Arg	Ala	Ser	Val	Ser	Glu
	210					215					220				
Gly	Val	Asp	Pro	Trp	Gly	Ile	Ser	Leu	Arg	Leu	Leu	Met	Ala	Met	Thr
225					230					235					240
Ile	Val	Ser	Gly	Leu	Val	Leu	Met	Ala	Ser	Tyr	Trp	Trp	Ile	Asn	Lys
				245					250					255	
Asn	Val	Leu	Thr	Asp	Pro	Arg	Phe	Tyr	Asn	Pro	Glu	Glu	Met	Gln	Lys
			260					265					270		
Gly	Lys	Lys	Gly	Ala	Lys	Pro	Lys	Met	Asn	Met	Lys	Asp	Ser	Phe	Leu
		275					280					285			
Tyr	Leu	Ala	Arg	Ser	Pro	Tyr	Ile	Leu	Leu	Leu	Ala	Leu	Leu	Val	Ile
290						295					300				

Ala Tyr Gly Ile Cys Ile Asn Leu Ile Glu Val Thr Trp Lys Ser Gln  
 305 310 315 320  
 Leu Lys Leu Gln Tyr Pro Asn Met Asn Asp Tyr Ser Glu Phe Met Gly  
 325 330 335  
 Asn Phe Ser Phe Trp Thr Gly Val Val Ser Val Leu Ile Met Leu Phe  
 340 345 350  
 Val Gly Gly Asn Val Ile Arg Lys Phe Gly Trp Leu Thr Gly Ala Leu  
 355 360 365  
 Val Thr Pro Val Met Val Leu Leu Thr Gly Ile Val Phe Phe Ala Leu  
 370 375 380  
 Val Ile Phe Arg Asn Gln Ala Ser Gly Leu Val Ala Met Phe Gly Thr  
 385 390 395 400  
 Thr Pro Leu Met Leu Ala Val Val Val Gly Ala Ile Gln Asn Ile Leu  
 405 410 415  
 Ser Lys Ser Thr Lys Tyr Ala Leu Phe Asp Ser Thr Lys Glu Met Ala  
 420 425 430  
 Tyr Ile Pro Leu Asp Gln Glu Gln Lys Val Lys Gly Lys Ala Ala Ile  
 435 440 445  
 Asp Val Val Ala Ala Arg Phe Gly Lys Ser Gly Gly Ala Leu Ile Gln  
 450 455 460  
 Gln Gly Leu Leu Val Ile Cys Gly Ser Ile Gly Ala Met Thr Pro Tyr  
 465 470 475 480  
 Leu Ala Val Ile Leu Phe Ile Ile Ala Ile Trp Leu Val Ser Ala  
 485 490 495  
 Thr Lys Leu Asn Lys Leu Phe Leu Ala Gln Ser Ala Leu Lys Glu Gln  
 500 505 510  
 Glu Val Ala Gln Glu Asp Ser Ala Pro Ala Ser Ser  
 515 520

<210> 354  
 <211> 451  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 354  
 Trp Val Gly Ile Phe Phe Ile Asn Ser His Phe Thr Asn Ser Tyr Ala  
 1 5 10 15  
 Phe Phe Asn Gln Lys Val Ile Ile Thr Val Arg His Ser Gly Cys Thr  
 20 25 30  
 Met Lys Cys Ser Pro Leu Thr Leu Val Pro His Ile Phe Leu Lys Asn  
 35 40 45  
 Asp Cys Glu Cys His Arg Ser Cys Ser Leu Lys Ile Arg Thr Ile Ala  
 50 55 60  
 Arg Leu Ile Leu Gly Leu Val Leu Ala Leu Val Ser Ala Leu Ser Phe  
 65 70 75 80  
 Val Phe Leu Ala Ala Pro Ile Ser Tyr Ala Ile Gly Gly Thr Leu Ala  
 85 90 95  
 Leu Ala Ala Ile Val Ile Leu Ile Ile Thr Leu Val Val Ala Leu Leu  
 100 105 110  
 Ala Lys Ser Lys Val Leu Pro Ile Pro Asn Glu Leu Gln Lys Ile Ile  
 115 120 125  
 Tyr Asn Arg Tyr Pro Lys Glu Val Phe Tyr Phe Val Lys Thr His Ser  
 130 135 140  
 Leu Thr Val Asn Glu Leu Lys Ile Phe Ile Asn Cys Trp Lys Ser Gly  
 145 150 155 160  
 Thr Asp Leu Pro Pro Asn Leu His Lys Lys Ala Glu Ala Phe Gly Ile  
 165 170 175  
 Asp Ile Leu Lys Ser Ile Asp Leu Thr Leu Phe Pro Glu Phe Glu Glu  
 180 185 190  
 Ile Leu Leu Gln Asn Cys Pro Leu Tyr Trp Leu Ser His Phe Ile Asp  
 195 200 205

Lys Thr Glu Ser Val Ala Gly Glu Ile Gly Leu Asn Lys Thr Gln Lys  
 210 215 220  
 Val Tyr Gly Leu Leu Gly Pro Leu Ala Phe His Lys Gly Tyr Thr Thr  
 225 230 235 240  
 Ile Phe His Ser Tyr Thr Arg Pro Leu Leu Thr Leu Ile Ser Glu Ser  
 245 250 255  
 Gln Tyr Lys Phe Leu Tyr Ser Lys Ala Ser Lys Asn Gln Trp Asp Ser  
 260 265 270  
 Pro Ser Val Lys Lys Thr Cys Glu Ile Phe Lys Glu Leu Pro His  
 275 280 285  
 Asn Met Ile Phe Arg Lys Asp Val Gln Gly Ile Ser Gln Phe Leu Phe  
 290 295 300  
 Leu Phe Phe Ser His Gly Ile Thr Trp Glu Gln Ala Gln Met Ile Gln  
 305 310 315 320  
 Leu Ile Asn Pro Asp Asn Trp Lys Met Leu Cys Gln Phe Asp Lys Ala  
 325 330 335  
 Gly Gly His Cys Ser Met Ala Thr Phe Gly Gly Phe Leu Asn Thr Glu  
 340 345 350  
 Thr Asn Met Phe Asp Pro Val Ser Ser Asn Tyr Glu Pro Thr Val Asn  
 355 360 365  
 Phe Met Thr Trp Lys Glu Leu Lys Val Leu Leu Glu Lys Val Lys Glu  
 370 375 380  
 Ser Pro Met His Pro Ala Ser Ala Leu Val Gln Lys Ile Cys Val Asn  
 385 390 395 400  
 Thr Thr His His Gln Asn Leu Leu Lys Arg Trp Gln Phe Val Arg Asn  
 405 410 415  
 Thr Ser Ser Gln Trp Thr Ser Ser Leu Pro Gln Tyr Ala Phe His Ala  
 420 425 430  
 Gln Thr Tyr Lys Leu Glu Lys Lys Ile Glu Ser Ser Leu Pro Ile Arg  
 435 440 445  
 Ser Ser Leu  
 450

<210> 355  
 <211> 81  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 355  
 Leu Arg Phe Arg Asn Ile Lys Lys Ser Leu Ile Phe Ile Lys Arg Ile  
 1 5 10 15  
 Arg Tyr Ser Gln Ser Gly Lys Glu Gln Lys Gly Ala Arg Pro Phe Phe  
 20 25 30  
 Lys Lys Ser Ile Thr Ser Ser Leu Val Ile Leu Leu Leu Glu Ala Ile  
 35 40 45  
 Phe Asn Glu Asn Phe Ser Ser Ile Ile Gln Asn Asn Phe Asn Lys Asn  
 50 55 60  
 Phe Lys Asn Lys Asn Ile Ser Ile Asn Arg Ile Phe Val Lys Phe Thr  
 65 70 75 80  
 Ile

<210> 356  
 <211> 482  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 356  
 Tyr Lys Thr Ile Ser Ile Lys Ile Leu Lys Ile Lys Thr Phe Leu Leu  
 1 5 10 15



<210> 357  
 <211> 455  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 357  
 Ile Arg Asp Phe Tyr Leu His Ile Ile Tyr Thr Ala Phe Asn Arg Ser  
 1 5 10 15  
 Ile Ser Lys Glu Leu Ala Met Ser Met Thr Ile Val Pro His Ala Leu  
 20 25 30  
 Phe Lys Asn His Cys Glu Cys His Ser Thr Phe Pro Leu Ser Ser Arg  
 35 40 45  
 Thr Ile Val Arg Ile Ala Ile Ala Ser Leu Phe Cys Ile Gly Ala Leu  
 50 55 60  
 Ala Ala Leu Gly Cys Leu Ala Pro Pro Val Ser Tyr Ile Val Gly Ser  
 65 70 75 80  
 Val Leu Ala Phe Ile Ala Phe Val Ile Leu Ser Leu Val Ile Leu Ala  
 85 90 95  
 Leu Ile Phe Gly Glu Lys Lys Leu Pro Pro Thr Pro Arg Ile Ile Pro  
 100 105 110  
 Asp Arg Phe Thr His Val Ile Asp Glu Ala Tyr Gly Leu Ser Ile Ser  
 115 120 125  
 Ala Phe Val Arg Glu Gln Gln Val Thr Leu Ala Glu Phe Arg Gln Phe  
 130 135 140  
 Ser Thr Ala Leu Leu Cys Asn Ile Ser Pro Glu Lys Ile Lys Gln  
 145 150 155 160  
 Leu Pro Ser Glu Leu Arg Ser Lys Val Glu Ser Phe Gly Ile Ser Arg  
 165 170 175  
 Leu Ala Gly Asp Leu Glu Lys Asn Asn Trp Pro Ile Phe Glu Asp Leu  
 180 185 190  
 Leu Ser Gln Thr Cys Pro Leu Tyr Trp Leu Gln Lys Phe Ile Ser Ala  
 195 200 205  
 Gly Asp Pro Gln Val Cys Arg Asp Leu Gly Val Pro Arg Glu Cys Tyr  
 210 215 220  
 Gly Tyr Tyr Trp Leu Gly Pro Leu Gly Tyr Ser Thr Ala Lys Ala Thr  
 225 230 235 240  
 Ile Phe Cys Lys Glu Thr His His Ile Leu Gln Gln Leu Thr Lys Glu  
 245 250 255  
 Asp Val Leu Leu Leu Lys Asn Lys Ala Leu Gln Glu Lys Trp Asp Thr  
 260 265 270  
 Asp Glu Val Lys Ala Ile Val Glu Arg Ile Tyr Thr Thr Tyr Thr Ala  
 275 280 285  
 Arg Gly Thr Leu Lys Thr Glu Ala Gly Gly Leu Thr Lys Glu Thr Ile  
 290 295 300  
 Ser Lys Glu Leu Leu Leu Ser Leu His Gly Tyr Ser Phe Asp Gln  
 305 310 315 320  
 Leu Gln Leu Ile Thr Gln Leu Pro Arg Asp Ala Trp Asp Trp Leu Cys  
 325 330 335  
 Phe Val Asp Asn Ser Thr Ala Tyr Asn Leu Gln Leu Cys Ala Leu Val  
 340 345 350  
 Gly Ala Leu Ser Ser Gln Asn Leu Leu Asp Glu Ser Ser Ile Asp Phe  
 355 360 365  
 Asp Val Asn Leu Gly Leu Tyr Val Ile Gln Asp Leu Lys Glu Ala Val  
 370 375 380  
 Gln Ala Phe Ser Ala Ser Asp Glu Pro Lys Lys Glu Leu Gly Lys Phe  
 385 390 395 400  
 Leu Leu Arg His Leu Ser Ser Val Ser Lys Arg Leu Glu Ser Val Leu  
 405 410 415  
 Arg Gln Gly Leu His Arg Ile Ala Leu Glu His Gly Asn Ala Arg Ala  
 420 425 430

Arg Val Tyr Asp Val Asn Phe Val Thr Gly Ala Arg Ile His Arg Lys  
 435 440 445  
 Thr Ser Ile Phe Phe Lys Asp  
 450 455

<210> 358  
 <211> 119  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 358  
 Lys Gln Val Gln Leu Phe Gln Tyr Met Asn Glu Ser Gly Trp Asp Trp  
 1 5 10 15  
 Leu Cys Asp Phe Asp Ser Gln Gly Glu Gly Phe Gln Leu Ser Arg Leu  
 20 25 30  
 Val Gly Leu Leu His Ser Ser Trp Ala Leu Tyr Glu Ala Lys Glu Gln  
 35 40 45  
 Phe Tyr Leu Pro Glu Val Ser Leu Leu Thr Trp Glu Glu Leu Ile Glu  
 50 55 60  
 Met Gln Leu Leu Ser Lys Pro Thr Lys His Gly Val Ala Lys Asp Leu  
 65 70 75 80  
 Cys Asn Val Phe Glu Lys His Phe Gln Arg Phe Arg Gln Tyr Leu Gly  
 85 90 95  
 Ser Leu Asp Leu Asn Gln Arg Phe Glu Asn Thr Phe Leu Asn Tyr Pro  
 100 105 110  
 Lys Tyr His Leu Asp Arg Glu  
 115

<210> 359  
 <211> 291  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 359  
 Tyr Ser Ser His Asn Gly Ala Ser Met Val Asn Ile Gln Pro Val Tyr  
 1 5 10 15  
 Arg Asn Thr Gln Val Asn Tyr Ser Gln Ala Thr Gln Phe Ser Val Cys  
 20 25 30  
 Gln Pro Ala Leu Ser Leu Ile Ile Val Ser Val Val Ala Ala Val Leu  
 35 40 45  
 Ala Ile Val Ala Leu Val Cys Ser Gln Ser Leu Leu Ser Ile Glu Leu  
 50 55 60  
 Gly Thr Ala Leu Val Leu Val Ser Leu Ile Leu Phe Ala Ser Ala Met  
 65 70 75 80  
 Phe Met Ile Tyr Lys Met Arg Gln Glu Pro Lys Glu Leu Leu Ile Pro  
 85 90 95  
 Lys Lys Ile Met Glu Leu Ile Gln Glu His Tyr Pro Ser Ile Val Val  
 100 105 110  
 Asp Phe Ile Arg Asp Gln Glu Val Ser Ile Tyr Glu Ile His His Leu  
 115 120 125  
 Ile Ser Ile Leu Asn Lys Thr Asn Val Phe Asp Lys Ala Pro Val Tyr  
 130 135 140  
 Leu Gln Glu Lys Leu Leu Gln Phe Gly Ile Glu Lys Phe Lys Asp Val  
 145 150 155 160  
 His Pro Ser Lys Leu Pro Asn Phe Glu Glu Ile Leu Leu Gln His Cys  
 165 170 175  
 Pro Leu His Trp Leu Gly Arg Leu Val Tyr Pro Met Val Ser Asp Val  
 180 185 190  
 Thr Pro Gly Thr Tyr Gly Tyr Tyr Trp Cys Gly Pro Leu Gly Leu Tyr  
 195 200 205

Glu	Asn	Ala	Pro	Ser	Leu	Phe	Glu	Arg	Arg	Ser	Leu	Leu	Leu	Leu	Lys
210						215					220				
Lys	Ile	Ser	Phe	Gly	Glu	Phe	Ala	Leu	Leu	Glu	Asp	Gly	Leu	Lys	Lys
225					230					235					240
Asn	Thr	Trp	Ser	Ser	Ser	Glu	Leu	Val	Gln	Ile	Arg	Gln	Asn	Leu	Phe
				245					250					255	
Thr	Arg	Tyr	Tyr	Ala	Asp	Lys	Glu	Glu	Val	Asp	Glu	Ala	Glu	Leu	Asn
			260					265					270		
Ala	Asp	Tyr	Glu	Gln	Phe	Asp	Ser	Leu	Leu	His	Leu	Ile	Phe	Ser	His
	275						280					285			
Lys	Leu	Ser													
290															

<210> 360  
 <211> 60  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 360

Glu	Glu	Val	Leu	Ser	Val	Ser	Met	Lys	Leu	Ile	Pro	Thr	Gln	Asp	Ser
1				5					10					15	
Ile	Glu	Arg	Glu	Thr	Asp	Ser	Lys	Arg	Asp	Lys	Lys	Ile	Phe	Thr	Ile
			20					25					30		
Tyr	Ile	Cys	Ser	Ser	Lys	Val	Leu	Ala	Gly	His	Phe	Phe	Ser	His	Leu
		35					40					45			
Asp	Lys	His	Asn	Lys	Ile	His	Glu	Ser	Ile	Gly	Val				
	50					55					60				

<210> 361  
 <211> 608  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 361

Ile	Thr	Leu	Gln	Tyr	Ile	Leu	Lys	Glu	Tyr	Lys	Ile	Glu	Asn	Ile	Arg
1				5					10					15	
Asn	Phe	Ser	Ile	Ile	Ala	His	Ile	Asp	His	Gly	Lys	Ser	Thr	Ile	Ala
			20					25					30		
Asp	Arg	Leu	Leu	Glu	Ser	Thr	Ser	Thr	Val	Glu	Glu	Arg	Glu	Met	Arg
		35					40					45			
Glu	Gln	Leu	Leu	Asp	Ser	Met	Asp	Leu	Glu	Arg	Glu	Arg	Gly	Ile	Thr
	50					55					60				
Ile	Lys	Ala	His	Pro	Val	Thr	Met	Thr	Tyr	Leu	Tyr	Glu	Gly	Glu	Val
65					70					75					80
Tyr	Gln	Leu	Asn	Leu	Ile	Asp	Thr	Pro	Gly	His	Val	Asp	Phe	Ser	Tyr
			85						90					95	
Glu	Val	Ser	Arg	Ser	Leu	Ser	Ala	Cys	Glu	Gly	Ala	Leu	Leu	Ile	Val
			100					105					110		
Asp	Ala	Ala	Gln	Gly	Val	Gln	Ala	Gln	Ser	Leu	Ala	Asn	Val	Tyr	Leu
		115					120					125			
Ala	Leu	Glu	Arg	Asp	Leu	Glu	Ile	Ile	Pro	Val	Leu	Asn	Lys	Ile	Asp
	130					135					140				
Leu	Pro	Ala	Ala	Asp	Pro	Val	Arg	Ile	Ala	Gln	Gln	Ile	Glu	Asp	Tyr
145					150					155					160
Ile	Gly	Leu	Asp	Thr	Thr	Asn	Ile	Ile	Ala	Cys	Ser	Ala	Lys	Thr	Gly
			165						170					175	
Gln	Gly	Ile	Pro	Ala	Ile	Leu	Lys	Ala	Ile	Ile	Asp	Leu	Val	Pro	Pro
			180					185					190		
Pro	Lys	Ala	Pro	Ala	Glu	Thr	Glu	Leu	Lys	Ala	Leu	Val	Phe	Asp	Ser
	195						200					205			



His	Tyr	Asp	Pro	Tyr	Val	Gly	Ile	Met	Val	Tyr	Val	Arg	Ile	Ile	Ser
210						215					220				
Gly	Glu	Leu	Lys	Lys	Gly	Asp	Arg	Ile	Thr	Phe	Met	Ala	Ala	Lys	Gly
225					230					235					240
Ser	Ser	Phe	Glu	Val	Leu	Gly	Ile	Gly	Ala	Phe	Leu	Pro	Lys	Ala	Thr
				245					250					255	
Phe	Ile	Glu	Gly	Ser	Leu	Arg	Pro	Gly	Gln	Val	Gly	Phe	Phe	Ile	Ala
			260					265					270		
Asn	Leu	Lys	Lys	Val	Lys	Asp	Val	Lys	Ile	Gly	Asp	Thr	Val	Thr	Lys
		275					280					285			
Thr	Lys	His	Pro	Ala	Lys	Thr	Pro	Leu	Glu	Gly	Phe	Lys	Glu	Ile	Asn
	290					295					300				
Pro	Val	Val	Phe	Ala	Gly	Ile	Tyr	Pro	Ile	Asp	Ser	Ser	Asp	Phe	Asp
305					310					315					320
Thr	Leu	Lys	Asp	Ala	Leu	Gly	Arg	Leu	Gln	Leu	Asn	Asp	Ser	Ala	Leu
				325					330					335	
Thr	Ile	Glu	Gln	Glu	Ser	Ser	His	Ser	Leu	Gly	Phe	Gly	Phe	Arg	Cys
			340					345					350		
Gly	Phe	Leu	Gly	Leu	Leu	His	Leu	Glu	Ile	Ile	Phe	Glu	Arg	Ile	Ile
		355					360					365			
Arg	Glu	Phe	Asp	Leu	Asp	Ile	Ile	Ala	Thr	Ala	Pro	Ser	Val	Ile	Tyr
	370					375					380				
Lys	Val	Val	Leu	Lys	Asn	Gly	Lys	Val	Leu	Asp	Ile	Asp	Asn	Pro	Ser
385					390					395					400
Gly	Tyr	Pro	Asp	Pro	Ala	Ile	Ile	Glu	His	Val	Glu	Glu	Pro	Trp	Val
				405					410					415	
His	Val	Asn	Ile	Ile	Thr	Pro	Gln	Glu	Tyr	Leu	Ser	Asn	Ile	Met	Asn
		420						425					430		
Leu	Cys	Leu	Asp	Lys	Arg	Gly	Ile	Cys	Val	Lys	Thr	Glu	Met	Leu	Asp
	435						440					445			
Gln	His	Arg	Leu	Val	Leu	Ala	Tyr	Glu	Leu	Pro	Leu	Asn	Glu	Ile	Val
	450					455					460				
Ser	Asp	Phe	Asn	Asp	Lys	Leu	Lys	Ser	Val	Thr	Lys	Gly	Tyr	Gly	Ser
465					470					475					480
Phe	Asp	Tyr	Arg	Leu	Gly	Asp	Tyr	Arg	Lys	Gly	Ser	Ile	Ile	Lys	Leu
				485					490					495	
Glu	Val	Leu	Ile	Asn	Glu	Glu	Pro	Ile	Asp	Ala	Phe	Ser	Cys	Leu	Val
			500					505					510		
His	Arg	Asp	Lys	Ala	Glu	Ser	Arg	Gly	Arg	Ser	Ile	Cys	Glu	Lys	Leu
	515						520					525			
Val	Asp	Val	Ile	Pro	Gln	Gln	Leu	Phe	Lys	Ile	Pro	Ile	Gln	Ala	Ala
	530					535						540			
Ile	Asn	Lys	Lys	Val	Ile	Ala	Arg	Glu	Thr	Ile	Arg	Ala	Leu	Ser	Lys
545					550					555					560
Asn	Val	Thr	Ala	Lys	Cys	Tyr	Gly	Gly	Asp	Ile	Thr	Arg	Lys	Arg	Lys
				565					570					575	
Leu	Trp	Glu	Lys	Gln	Lys	Lys	Gly	Lys	Lys	Arg	Met	Lys	Glu	Phe	Gly
			580					585					590		
Lys	Val	Ser	Ile	Pro	Asn	Thr	Ala	Phe	Ile	Glu	Val	Leu	Lys	Leu	Asp
	595						600					605			

<210> 362

<211> 481

<212> PRT

<213> Chlamydia pneumoniae

<400> 362

Val	Ala	Leu	Gln	Thr	Asn	Ile	Gly	Leu	Ile	Gly	Leu	Ala	Val	Met	Gly
1			5					10						15	
Lys	Asn	Leu	Val	Leu	Asn	Met	Ile	Asp	His	Gly	Phe	Ser	Val	Ser	Val
			20					25					30		

Tyr	Asn	Arg	Thr	Pro	Glu	Lys	Thr	Arg	Asp	Phe	Leu	Lys	Glu	Tyr	Pro	
	35					40					45					
Asn	His	Arg	Glu	Leu	Val	Gly	Phe	Glu	Ser	Leu	Glu	Asp	Phe	Val	Asn	
	50					55				60						
Ser	Leu	Glu	Arg	Pro	Arg	Lys	Ile	Met	Leu	Met	Ile	Gln	Ala	Gly	Lys	
65					70				75						80	
Pro	Val	Asp	Gln	Ser	Ile	His	Ala	Leu	Leu	Pro	Phe	Leu	Glu	Pro	Gly	
				85					90					95		
Asp	Val	Ile	Ile	Asp	Gly	Gly	Asn	Ser	Tyr	Phe	Lys	Asp	Ser	Glu	Arg	
			100				105						110			
Arg	Cys	Lys	Glu	Leu	Gln	Glu	Lys	Gly	Ile	Leu	Phe	Leu	Gly	Val	Gly	
		115					120					125				
Ile	Ser	Gly	Gly	Glu	Glu	Gly	Ala	Arg	His	Gly	Pro	Ser	Ile	Met	Pro	
	130					135					140					
Gly	Gly	Asn	Pro	Glu	Ala	Trp	Pro	Leu	Val	Ala	Pro	Ile	Phe	Gln	Ser	
145					150					155					160	
Ile	Ala	Ala	Lys	Val	Gln	Gly	Arg	Pro	Cys	Cys	Ser	Trp	Val	Gly	Thr	
				165					170					175		
Gly	Gly	Ala	Gly	His	Tyr	Val	Lys	Ala	Val	His	Asn	Gly	Ile	Glu	Tyr	
			180					185					190			
Gly	Asp	Ile	Gln	Leu	Ile	Cys	Glu	Ala	Tyr	Gly	Ile	Leu	Arg	Asp	Phe	
	195						200					205				
Leu	Lys	Leu	Ser	Ala	Thr	Ala	Val	Ala	Thr	Ile	Leu	Lys	Glu	Trp	Asn	
	210					215					220					
Thr	Leu	Glu	Leu	Glu	Ser	Tyr	Leu	Ile	Arg	Ile	Ala	Ser	Glu	Val	Leu	
225					230					235					240	
Ala	Leu	Lys	Asp	Pro	Glu	Gly	Ile	Pro	Val	Ile	Asp	Thr	Ile	Leu	Asp	
				245					250					255		
Val	Val	Gly	Gln	Lys	Gly	Thr	Gly	Lys	Trp	Thr	Ala	Ile	Asp	Ala	Leu	
			260					265					270			
Asn	Ser	Gly	Val	Pro	Leu	Ser	Leu	Ile	Ile	Gly	Ala	Val	Leu	Ala	Arg	
		275					280					285				
Phe	Leu	Ser	Ser	Trp	Lys	Glu	Ile	Arg	Glu	Gln	Ala	Ala	Arg	Asn	Tyr	
	290				295						300					
Pro	Gly	Thr	Pro	Leu	Ile	Phe	Glu	Met	Pro	His	Asp	Pro	Ser	Val	Phe	
305					310					315					320	
Ile	Gln	Asp	Val	Phe	His	Ala	Leu	Tyr	Ala	Ser	Lys	Ile	Ile	Ser	Tyr	
				325					330					335		
Ala	Gln	Gly	Phe	Met	Leu	Leu	Gly	Glu	Ala	Ser	Lys	Glu	Tyr	Asn	Trp	
			340					345					350			
Gly	Leu	Asp	Leu	Gly	Glu	Ile	Ala	Leu	Met	Trp	Arg	Gly	Gly	Cys	Ile	
		355					360					365				
Ile	Gln	Ser	Ala	Phe	Leu	Asp	Val	Ile	His	Lys	Gly	Phe	Ala	Ala	Asn	
	370					375					380					
Pro	Glu	Asn	Thr	Ser	Leu	Ile	Phe	Gln	Glu	Tyr	Phe	Arg	Gly	Ala	Leu	
385					390					395					400	
Arg	His	Ala	Glu	Met	Gly	Trp	Arg	Arg	Thr	Val	Val	Thr	Ala	Ile	Gly	
				405					410					415		
Ala	Gly	Leu	Pro	Ile	Pro	Cys	Leu	Ala	Ala	Ala	Ile	Thr	Phe	Tyr	Asp	
			420					425					430			
Gly	Tyr	Arg	Thr	Ala	Ser	Ser	Ser	Met	Ser	Leu	Ala	Gln	Gly	Leu	Arg	
		435					440					445				
Asp	Tyr	Phe	Gly	Ala	His	Thr	Tyr	Glu	Arg	Asn	Asp	Arg	Pro	Arg	Gly	
	450					455					460					
Glu	Phe	Tyr	His	Thr	Asp	Trp	Val	His	Thr	Lys	Thr	Thr	Glu	Arg	Val	
465					470					475					480	
Lys																

<210> 363  
 <211> 423  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 363  
 Ser Leu Ala Ile Leu Asn Tyr Val Arg Ser Leu Met Gln Ser Trp Leu  
 1 5 10 15  
 Gln Ser Leu Gln Glu Arg Asn Ile Leu Glu Asn Phe Thr Ala Gly Leu  
 20 25 30  
 Glu Ser Val Glu Gly Pro Ile Ala Ala Tyr Leu Gly Phe Asp Pro Thr  
 35 40 45  
 Ala Pro Ala Leu His Ile Gly His Trp Ile Gly Ile Cys Phe Leu Lys  
 50 55 60  
 Arg Leu Ala Ala Leu Gly Ile Thr Pro Ile Ala Leu Val Gly Gly Ala  
 65 70 75 80  
 Thr Gly Met Val Gly Asp Pro Ser Gly Lys Gln Ser Glu Arg Ser Leu  
 85 90 95  
 Leu Gln Thr Ser Glu Val Phe Asp Asn Ser Gln Lys Ile Thr Ala Cys  
 100 105 110  
 Leu Gln Arg Tyr Leu Pro Gly Val Thr Leu Val Asn Asn Ala Asp Trp  
 115 120 125  
 Leu Gln Glu Ile Ser Leu Ile Asp Phe Leu Gly Asp Ile Gly Lys His  
 130 135 140  
 Phe Arg Leu Gly Gln Met Leu Val Lys Asp Thr Ile Lys Gln Arg Val  
 145 150 155 160  
 His Ser Asp Glu Gly Ile Ser Tyr Thr Glu Phe Ser Tyr Leu Ile Leu  
 165 170 175  
 Gln Ser Tyr Asp Phe Tyr His Leu Phe Lys Asn Tyr Gly Thr Ile Leu  
 180 185 190  
 Gln Cys Gly Gly Ser Asp Gln Trp Gly Asn Ile Thr Ser Gly Ile Asp  
 195 200 205  
 Phe Ile Arg Arg Lys Gly Leu Gly Gln Ala Tyr Gly Leu Thr Tyr Pro  
 210 215 220  
 Leu Leu Thr Asn Ala Gln Gly Lys Lys Ile Gly Lys Thr Glu Ser Gly  
 225 230 235 240  
 Thr Val Trp Leu Asp Ser Asp Leu Thr Ser Pro Phe Glu Leu Tyr Gln  
 245 250 255  
 Tyr Leu Leu Arg Leu Pro Asp Asp Thr Ile Pro Lys Ile Ala Arg Thr  
 260 265 270  
 Leu Thr Leu Leu Ser Asn Glu Glu Ile Gln Asp Ile Asp Arg Arg Val  
 275 280 285  
 Gln Thr Asp Pro Val Ala Val Lys Glu Phe Val Ala Gln Asp Ile Leu  
 290 295 300  
 Ser Ala Ile His Gly Asp Leu Gly Leu Glu Glu Ala Leu Ser Val Thr  
 305 310 315 320  
 Arg Ser Met His Pro Gly Asn Leu Ser Ser Leu Ser Glu Lys Asp Phe  
 325 330 335  
 His Glu Leu Phe Ala Gly Gly Met Gly Ala Ser Leu Asp Lys Ser Glu  
 340 345 350  
 Val Leu Gly Lys Arg Trp Leu Asp Leu Phe Leu Val Leu Gly Leu Cys  
 355 360 365  
 Lys Ser Lys Gly Glu Ile Arg Arg Leu Ile Glu Gln Lys Gly Val Tyr  
 370 375 380  
 Ile Asn Asn Val Pro Ile Ala Asn Glu His Ser Val Cys Glu Glu Gln  
 385 390 395 400  
 Asp Ile Cys Tyr Gly His Tyr Val Leu Leu Ala Gln Gly Lys Lys Arg  
 405 410 415  
 Lys Leu Val Leu Tyr Leu Asn  
 420

<210> 364  
 <211> 263  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 364  
 Leu Asp Lys Lys Lys Phe Val Lys Thr Gln Gln Thr Gln Asn Ile Ile  
 1 5 10 15  
 Glu Val Trp Asn Phe Tyr Trp Glu Thr Gln Glu Ile Glu Tyr Arg Asp  
 20 25 30  
 Ser Leu Ile Glu Phe Tyr Leu Pro Leu Val Lys Ser Val Val His Arg  
 35 40 45  
 Leu Ile Ser Gly Met Pro Ser His Val Lys Thr Glu Asp Leu Tyr Ala  
 50 55 60  
 Ser Gly Val Glu Gly Leu Val Arg Ala Val Glu Arg Tyr Asn Pro Glu  
 65 70 75 80  
 Arg Ser Arg Arg Phe Glu Gly Tyr Ala Val Phe Leu Ile Lys Ala Ala  
 85 90 95  
 Ile Ile Asp Asp Leu Arg Lys Gln Asp Trp Val Pro Arg Ser Val His  
 100 105 110  
 Gln Lys Ala Asn Lys Leu Ser Gly Ala Met Asp Ser Leu Arg Gln Ser  
 115 120 125  
 Leu Gly Lys Glu Pro Thr Asp Leu Glu Leu Cys Glu Tyr Leu Asn Ile  
 130 135 140  
 Ser Gln Gln Glu Leu Ser Gly Trp Phe Val Ser Ala Arg Pro Ala Leu  
 145 150 155 160  
 Ile Val Ser Leu Asn Glu Glu Trp Pro Ser Gln Ser Asp Glu Gly Ala  
 165 170 175  
 Gly Met Ala Leu Glu Glu Arg Ile Pro Asp Glu Arg Ala Glu Thr Gly  
 180 185 190  
 Tyr Asp Val Val Asp Lys Gln Glu Phe Ser Leu Cys Leu Ala Asn Ala  
 195 200 205  
 Ile Gln Glu Leu Glu Glu Lys Glu Arg Lys Val Met Ala Leu Tyr Tyr  
 210 215 220  
 Tyr Glu Glu Leu Val Leu Lys Glu Ile Gly Lys Val Leu Gly Val Ser  
 225 230 235 240  
 Glu Ser Arg Val Ser Gln Ile His Ser Lys Ala Leu Leu Lys Leu Arg  
 245 250 255  
 Ala Ala Leu Ser Ala Phe Arg  
 260

<210> 365  
 <211> 586  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 365  
 Glu Ala Val Phe Val Ser Gly Lys Lys Asp Gly Val Arg Gly Met Ile  
 1 5 10 15  
 Phe Val Pro Leu Ser Ile Leu Val Leu Ile Phe Leu Pro Leu Pro Gln  
 20 25 30  
 Ile Leu Leu Asp Phe Gly Leu Cys Ile Ser Phe Ala Leu Ser Leu Leu  
 35 40 45  
 Thr Val Cys Trp Val Phe Thr Leu Asn Ser Ser Asn Ser Ala Lys Leu  
 50 55 60  
 Phe Pro Pro Phe Phe Leu Tyr Leu Cys Leu Leu Arg Leu Gly Leu Asn  
 65 70 75 80  
 Leu Ala Ser Thr Arg Trp Ile Val Ser Ser Gly Thr Ala Ser Ser Leu  
 85 90 95  
 Ile Val Ser Leu Gly Ser Phe Phe Ser Leu Gly Ser Leu Trp Ala Ala  
 100 105 110

Thr	Phe	Ala	Cys	Leu	Leu	Leu	Phe	Phe	Val	Asn	Phe	Leu	Met	Val	Ser	
		115					120					125				
Lys	Gly	Ser	Glu	Arg	Ile	Ala	Glu	Val	Arg	Ser	Arg	Phe	Phe	Leu	Glu	
	130					135					140					
Ala	Leu	Pro	Ala	Lys	Gln	Met	Ala	Leu	Asp	Ser	Asp	Leu	Val	Ser	Gly	
145					150					155					160	
Arg	Ala	Ser	Tyr	Lys	Ala	Val	Lys	Lys	Gln	Lys	Asn	Ala	Leu	Ile	Glu	
				165					170					175		
Glu	Gly	Asp	Phe	Phe	Ser	Ala	Met	Glu	Gly	Val	Phe	Arg	Phe	Val	Lys	
			180					185					190			
Gly	Asp	Ala	Ile	Ile	Ser	Cys	Ile	Leu	Leu	Leu	Val	Asn	Val	Val	Ser	
		195					200					205				
Val	Thr	Cys	Leu	Tyr	Tyr	Thr	Ser	Gly	Tyr	Ala	Leu	Glu	Gln	Met	Trp	
	210					215					220					
Phe	Thr	Val	Leu	Gly	Asp	Ala	Leu	Val	Ser	Gln	Val	Pro	Ala	Leu	Leu	
225					230					235					240	
Thr	Ser	Cys	Ala	Ala	Ala	Thr	Leu	Ile	Ser	Lys	Ile	Asp	Lys	Glu	Glu	
				245					250					255		
Ser	Leu	Leu	Asn	Tyr	Leu	Phe	Glu	Tyr	Tyr	Lys	Gln	Leu	Arg	Gln	His	
			260					265					270			
Phe	Arg	Val	Val	Ser	Leu	Leu	Ile	Phe	Ser	Leu	Cys	Cys	Ile	Pro	Ser	
		275					280					285				
Ser	Pro	Lys	Phe	Pro	Ile	Val	Leu	Leu	Ala	Ser	Leu	Leu	Trp	Leu	Ala	
	290					295					300					
Tyr	Arg	Lys	Glu	Glu	Pro	Ala	Ser	Glu	Asp	Ser	Cys	Ile	Glu	Arg	Ala	
305					310					315					320	
Phe	Ser	Tyr	Val	Glu	Gly	Ala	Cys	Pro	Lys	Glu	Gln	Glu	Ser	Gln	Phe	
				325					330					335		
Tyr	Gln	Val	Tyr	Arg	Ala	Ala	Ser	Glu	Glu	Val	Phe	Glu	Asp	Leu	Gly	
			340					345					350			
Val	Arg	Leu	Pro	Val	Leu	Thr	Ser	Leu	Arg	Ile	Glu	Glu	Arg	Pro	Trp	
	355						360					365				
Leu	Arg	Val	Phe	Gly	Gln	Asn	Val	Tyr	Leu	Asp	Glu	Met	Thr	Pro	Glu	
	370					375					380					
Ala	Val	Leu	Pro	Phe	Leu	Arg	Asn	Ile	Ala	His	Glu	Ala	Leu	Asn	Ala	
385					390					395					400	
Glu	Val	Val	Gln	Lys	Tyr	Leu	Glu	Glu	Ser	Glu	Arg	Val	Phe	Gly	Ile	
			405						410					415		
Ala	Val	Glu	Asp	Ile	Val	Pro	Lys	Lys	Ile	Ser	Leu	Ser	Ser	Leu	Val	
			420					425					430			
Val	Leu	Ser	Arg	Leu	Leu	Val	Arg	Glu	Arg	Val	Ser	Leu	Lys	Leu	Phe	
	435						440					445				
Pro	Lys	Ile	Leu	Glu	Ala	Val	Ala	Val	Tyr	Gln	Asn	Ser	Gly	Asp	Ser	
	450					455					460					
Leu	Glu	Ile	Leu	Ala	Glu	Lys	Val	Arg	Lys	Ser	Leu	Gly	Tyr	Trp	Ile	
465					470					475					480	
Gly	Arg	Ser	Leu	Trp	Asp	Gln	Lys	Gln	Thr	Leu	Glu	Val	Ile	Thr	Ile	
				485					490					495		
Asp	Phe	His	Val	Glu	Glu	Leu	Ile	Asn	Ser	Ser	Tyr	Ser	Lys	Ser	Asn	
			500					505					510			
Pro	Val	Met	Gln	Glu	Asn	Val	Ile	Arg	Arg	Val	Asp	Ser	Leu	Leu	Glu	
		515					520					525				
Arg	Ser	Val	Phe	Lys	Asp	Phe	Arg	Ala	Ile	Val	Thr	Ser	Cys	Glu	Thr	
	530					535					540					
Arg	Phe	Glu	Met	Lys	Lys	Met	Leu	Asp	Pro	His	Phe	Pro	Asp	Leu	Leu	
545					550					555					560	
Val	Leu	Ser	His	Asp	Glu	Leu	Pro	Lys	Glu	Ile	Pro	Ile	Sér	Phe	Leu	
				565					570					575		
Gly	Ile	Val	Ser	Asp	Glu	Val	Leu	Val	Pro							
			580					585								

<210> 366  
 <211> 95  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 366  
 Lys Glu Asn Ser Met Ala Lys Leu Val Ile Thr Ser Asp Asp Glu Gln  
 1 5 10 15  
 Gln Glu Phe Glu Leu Glu Asp Asn Ser Glu Ile Ala Glu Pro Cys Glu  
 20 25 30  
 Ser Met Gly Ile Pro Phe Ala Cys Thr Glu Gly Val Cys Gly Thr Cys  
 35 40 45  
 Val Ile Glu Val Leu Glu Gly Arg Glu Asn Leu Ser Glu Phe Thr Glu  
 50 55 60  
 Pro Glu Tyr Asp Phe Leu Gly Glu Pro Glu Asp Ser Asn Glu Arg Leu  
 65 70 75 80  
 Ala Cys Gln Cys Arg Ile Lys Gly Gly Cys Val Lys Val Thr Phe  
 85 90 95

<210> 367  
 <211> 349  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 367  
 Phe Lys Gly Thr Gln Val Asn Ser Leu Ile Met Ala Thr Ile Ser Pro  
 1 5 10 15  
 Ile Ser Leu Thr Val Asp His Pro Leu Val Asp Thr Lys Lys Ser  
 20 25 30  
 Cys Ser Asn Phe Asp Lys Ile Gln Ser Arg Ile Leu Leu Ile Thr Ala  
 35 40 45  
 Ile Phe Ala Val Leu Val Thr Ile Gly Thr Leu Leu Ile Gly Leu Leu  
 50 55 60  
 Leu Asn Ile Pro Val Ile Tyr Phe Leu Thr Gly Ile Ser Phe Ile Ala  
 65 70 75 80  
 Val Val Leu Ser Asn Phe Ile Leu Tyr Lys Arg Ala Thr Thr Leu Leu  
 85 90 95  
 Lys Pro Arg Ala Cys Gly Lys His Lys Glu Ile Lys Pro Lys Arg Val  
 100 105 110  
 Ser Thr Asn Leu Gln Tyr Ser Ser Ile Ser Ile Ala Ile Asn Arg Ser  
 115 120 125  
 Lys Glu Asn Trp Glu His Gln Pro Lys Asp Leu Gln Asn Leu Pro Ala  
 130 135 140  
 Pro Ser Ala Leu Leu Thr Asp Asn Pro Tyr Glu Ile Trp Lys Ala Lys  
 145 150 155 160  
 His Ser Leu Phe Ser Leu Val Ser Leu Leu Pro Gly Gly Asn Pro Glu  
 165 170 175  
 His Leu Leu Ile Ser Ala Ser Glu Asn Leu Gly Lys Thr Leu Leu Ile  
 180 185 190  
 Glu Glu Thr Ser Gln Asn Ala Pro Ile Ser Ser Tyr Val Asp Thr Thr  
 195 200 205  
 Pro Ser Pro Lys Ser Leu Leu Asn Glu Ala Ile Gln Glu Thr Arg Val  
 210 215 220  
 Glu Ile Asn Thr Glu Leu Pro Ala Gly Asp Ser Gly Glu Arg Leu Tyr  
 225 230 235 240  
 Trp Gln Pro Asp Phe Arg Gly Arg Val Phe Leu Pro Gln Ile Pro Thr  
 245 250 255  
 Thr Pro Glu Ala Ile Tyr Gln Tyr Tyr Tyr Ala Leu Tyr Val Thr Tyr  
 260 265 270  
 Ile Gln Thr Ala Ile Asn Thr Asn Thr Gln Ile Ile Gln Ile Pro Leu  
 275 280 285

Tyr	Ser	Leu	Arg	Glu	His	Leu	Tyr	Ser	Arg	Glu	Leu	Pro	Pro	Gln	Ser
290						295					300				
Arg	Met	Gln	Gln	Ser	Leu	Ala	Met	Ile	Thr	Ala	Val	Lys	Tyr	Met	Ala
305					310					315					320
Glu	Leu	His	Pro	Glu	Tyr	Pro	Leu	Thr	Ile	Ala	Cys	Val	Glu	Arg	Ser
				325					330					335	
Leu	Ala	Gln	Leu	Pro	Gln	Glu	Ser	Ile	Glu	Asp	Leu	Ser			
			340					345							

<210> 368  
 <211> 155  
 <212> PRT  
 <213> Chlamydia pneumoniae

Met	Gly	Tyr	Leu	Pro	Val	Ser	Ala	Thr	Asp	Val	Leu	Phe	Glu	Ser	Pro
1				5					10					15	
Ala	Ala	Pro	Leu	Ile	Asn	Ser	Ala	Asn	Thr	Gln	Asn	Gln	Lys	Leu	Ile
			20					25					30		
Glu	Leu	Lys	Gly	Lys	Gln	Gln	Ala	Glu	Ser	Ser	Pro	Arg	Thr	Ile	Thr
		35					40					45			
Ser	Val	Ile	Leu	Glu	Val	Leu	Leu	Val	Ile	Gly	Cys	Cys	Leu	Ile	Val
	50					55				60					
Leu	Ser	Leu	Leu	Ala	Ile	Arg	Pro	Ala	Leu	Gln	Phe	Thr	Leu	Glu	Thr
65					70					75					80
Gly	His	Pro	Ala	Ala	Ile	Ala	Val	Leu	Ala	Val	Ser	Gly	Thr	Ile	Leu
			85						90					95	
Leu	Val	Ala	Val	Ile	Ile	Leu	Phe	Cys	Phe	Leu	Ala	Ala	Val	Pro	Phe
			100					105					110		
Ala	Ala	Lys	Lys	Thr	Tyr	Lys	Tyr	Val	Lys	Thr	Val	Asp	Asp	Tyr	Ala
		115					120					125			
Ser	Trp	His	Ser	His	Gln	Gln	Thr	Pro	Thr	Leu	Gly	Thr	Ile	Phe	Ser
	130					135					140				
Gly	Ile	Val	Tyr	Ala	Glu	Ser	Gln	Ala	Gln	Leu					
145					150					155					

<210> 369  
 <211> 253  
 <212> PRT  
 <213> Chlamydia pneumoniae

Ser	Phe	Pro	Leu	Asn	Arg	Tyr	Phe	Met	Thr	Lys	Thr	Thr	Ser	Ile	Pro
1				5					10					15	
Asp	Val	His	Glu	Asn	Gln	Ser	His	Leu	Ser	Val	Asp	Glu	Arg	Leu	Ile
			20					25					30		
Ser	Glu	Ser	Pro	Val	Leu	Thr	Lys	Lys	Glu	Val	Ile	Ala	Lys	Ile	Ile
		35					40					45			
Lys	Leu	Thr	Ala	Leu	Ile	Leu	Ala	Leu	Ala	Ile	Ala	Val	Gly	Thr	Ala
	50					55				60					
Val	Val	Ala	Gly	Val	Leu	Gly	Met	Pro	Leu	Met	Ala	Ile	Ala	Thr	Gly
65					70					75					80
Ala	Ala	Leu	Leu	Ala	Ala	Val	Val	Leu	Ser	Cys	Leu	Leu	Leu	Arg	Arg
				85				90						95	
Arg	Glu	Pro	Ser	Lys	Pro	Thr	Glu	Glu	Leu	Leu	Gly	Pro	Gln	Lys	His
			100					105					110		
Val	Pro	Lys	Asp	Ile	Ala	Ala	Gln	Val	Gln	Pro	Ser	Val	Pro	Leu	Asp
		115					120					125			
Tyr	Gln	Lys	Leu	Leu	Arg	Asn	Glu	Trp	Thr	Leu	Val	Asn	Thr	Leu	Ser
	130					135					140				

Glu	Ile	Asn	Ile	Ser	Trp	Thr	Leu	Gln	Asp	Pro	Asn	Gln	Arg	Tyr	Tyr
145					150					155					160
Val	Trp	Glu	His	Gln	Gly	Ala	Pro	Ile	Thr	Leu	Val	Ala	Thr	Thr	Gly
				165					170						175
Asp	Ile	Ala	Lys	Pro	Arg	Leu	Lys	Thr	Ser	Gly	Arg	Val	Met	Ile	Val
			180					185						190	
Asn	Ala	Ala	Asn	Ser	Asn	Met	Gln	Ser	Gly	Gly	Ala	Gly	Thr	Asn	Ala
		195				200						205			
Ala	Leu	Ser	Ala	Ala	Thr	His	Pro	Thr	Cys	Trp	Asn	Asn	Thr	Arg	Thr
	210				215						220				
Ser	Gly	Gly	Lys	Ile	Asn	Thr	Gly	Lys	Gly	Leu	Ser	Val	Gly	Glu	Cys
225					230					235					240
Arg	Ser	Ala	Pro	Trp	Ile	Asn	Arg	Asp	Trp	Thr	Asn	Lys			
				245					250						

<210> 370

<211> 114

<212> PRT

<213> Chlamydia pneumoniae

<400> 370

Thr	Leu	Ala	Lys	Asp	Tyr	Leu	Trp	Val	Asn	Ala	Ala	Gln	His	Pro	Gly
1				5					10					15	
Ser	Ile	Glu	Thr	Gly	Arg	Ile	Asn	Asp	Thr	Asn	Pro	Gly	Glu	Ala	His
			20					25					30		
Phe	Leu	Ala	Gln	Leu	Leu	Gly	Pro	Lys	Tyr	Glu	Gly	Glu	Leu	Lys	Ala
		35				40						45			
His	Pro	Glu	Lys	Leu	Ser	Asn	Val	Ile	Lys	Lys	Ala	Tyr	Leu	Asn	Cys
	50					55					60				
Phe	Asp	Glu	Ala	Leu	Asn	Asn	Gln	Ala	Thr	Val	Val	Gln	Val	Pro	Leu
65					70					75					80
Ile	Ser	Ser	Ser	Ile	Tyr	Ser	Pro	Gly	Gly	Lys	Leu	Glu	Leu	Glu	Pro
				85					90					95	
Val	Asn	Gln	Thr	Lys	Pro	Asn	Ser	Ser	Ala	Tyr	Lys	Leu	Tyr	His	Ile
			100					105						110	
Arg	Thr														

<210> 371

<211> 406

<212> PRT

<213> Chlamydia pneumoniae

<400> 371

Asn	Ile	Met	Thr	Asp	Ser	Asn	Pro	Leu	Pro	Ser	Tyr	Thr	Asp	Ala	Ser
1				5					10					15	
Leu	Tyr	Arg	Thr	Pro	Ala	Lys	His	Ser	Tyr	Pro	Ile	Arg	Leu	Pro	Leu
			20					25					30		
Asn	Arg	Thr	Asp	Arg	Ile	Glu	Lys	Ile	Leu	Lys	Ile	Val	Thr	Leu	Thr
		35					40					45			
Leu	Ala	Leu	Ala	Cys	Ala	Leu	Gly	Phe	Ser	Ile	Ala	Ala	Gly	Ile	Leu
	50					55					60				
Ala	Met	Pro	Ile	Phe	Ser	Ala	Val	Val	Val	Ile	Thr	Leu	Ala	Ile	Ala
65					70					75					80
Ala	Val	Ser	Leu	Tyr	Ser	Leu	Leu	Lys	Lys	Pro	Lys	Leu	Tyr	Glu	Ile
				85					90					95	
Leu	Pro	Gln	Ile	Glu	Pro	Glu	Ser	Glu	Gln	Ser	Ser	Leu	Ser	Pro	Ser
			100					105					110		
Pro	Gln	Pro	Pro	Glu	Gln	Gln	Asp	Leu	Pro	Leu	Gln	Ile	Asp	Pro	Leu
		115					120						125		



Pro Asp Pro Glu Ser Leu Pro Glu Val Ser Leu Ala Asp Leu Thr Thr  
 130 135 140  
 Pro Pro Glu Glu Leu Thr Ala Ile Thr Val Thr Pro Gly Tyr Glu Ala  
 145 150 155 160  
 Leu Leu Glu Gln Asn Trp Asp Leu Leu Pro Ser Leu Ala Ala Val Asp  
 165 170 175  
 Pro Ser Phe Thr Thr Glu Thr Pro Gln Gln Pro Cys Phe Ile Trp Lys  
 180 185 190  
 Leu Lys Asp Ser Lys Leu Ile Phe Ile Ser Thr Ser Gly Asp Ile Ala  
 195 200 205  
 Val Pro Arg Ile Lys Thr Gln Gly Arg Val Met Ile Val Asn Ala Ala  
 210 215 220  
 Asn Glu Asn Ile Ser Arg Glu Gly Gly Gly Thr Asn Lys Ala Leu Ser  
 225 230 235 240  
 Leu Ala Thr Ser Leu Gln Cys Trp Asn Ala Ser Arg Leu Pro Arg Ala  
 245 250 255  
 His Ser Arg Ser Gly Ser Gln Leu Gln Pro Gly Glu Cys Arg Ser Ala  
 260 265 270  
 Lys Trp Glu Asn Ser Asp His Thr Ser Asn Asp His Val Pro Gly Lys  
 275 280 285  
 Ala His Phe Leu Ala Gln Leu Leu Gly Pro Glu Ala Ala Lys Cys Asn  
 290 295 300  
 Asn Asp Pro Lys Gln Ala Phe Glu Val Ser Lys Lys Ala Phe His Asn  
 305 310 315 320  
 Leu Phe Gln Glu Ala Glu Ile Ile Gly Val Asp Val Ile Gln Leu Pro  
 325 330 335  
 Leu Ile Gly Cys Asn Leu Phe Ala Pro Ser Arg Leu Leu Asn Leu Gly  
 340 345 350  
 Lys Thr Arg Ala Glu Trp Ile Glu Ala Ile Lys Leu Ala Leu Ile Thr  
 355 360 365  
 Ser Leu Gln Asp Phe Gly Trp Glu Gln Asp Asn Gln Glu Glu Gln Lys  
 370 375 380  
 Ile Ile Ile Leu Thr Asp Lys Asp Gln Pro Pro Ile Ile Pro Pro Arg  
 385 390 395 400  
 Phe Asp Leu Thr Thr Pro  
 405

<210> 372  
 <211> 386  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 372  
 Lys Arg Ile Phe Phe Lys Leu Phe Val Phe Tyr Leu Lys Ser Phe Met  
 1 5 10 15  
 Ser Thr Thr Glu Pro Asn Leu Thr Asn Val Asn Leu Thr Met Leu Ile  
 20 25 30  
 Ser Ser Glu Ser Met Pro Thr Gln Leu Ala Ser His Lys Leu Lys Gly  
 35 40 45  
 Leu Asp Leu Val Ala Phe Ile Leu Ile Ile Gly Ile Ala Val Ser Ser  
 50 55 60  
 Gly Thr Ala Ala Ile Ile Leu Gly Ile Pro Leu Leu Phe Ile Leu Thr  
 65 70 75 80  
 Ala Leu Ala Val Leu Ala Phe Ser Ile Leu Leu Tyr Phe Leu Leu Arg  
 85 90 95  
 Glu Pro Lys Ser Pro Ile Ser Val Thr His Gln Pro Thr Pro Ile Ile  
 100 105 110  
 Lys Asp Thr Asp Leu Pro Pro Val Pro Pro Leu Ala Leu Thr Pro Val  
 115 120 125  
 Pro Thr Glu Ala Val Leu Glu Glu Pro Pro Leu Pro Ser Pro Arg Thr  
 130 135 140

His Gln Thr Leu Leu Gln Glu Asn Trp Asp Arg Ile Pro Asp Leu Gln  
 145 150 155 160  
 Ala Asn Thr Asp Met Pro Phe Ile Ala Ala Asp Asn Gln Thr Gly Tyr  
 165 170 175  
 Ala Trp His Leu Lys Asn Ser Asn Leu Thr Leu Ile Ser Thr Leu Gly  
 180 185 190  
 Pro Ile Glu Lys Pro Arg Tyr Lys Thr Gln Gly Ile Val Met Ile Val  
 195 200 205  
 Asn Ala Ala Thr Pro Asn Met Ala Asn Asn Val Lys Gly Thr Ser Leu  
 210 215 220  
 Ala Leu Ala Lys Ala Thr Ser Val Arg Cys Trp Glu Asn Ser Lys Lys  
 225 230 235 240  
 Ser Pro Asp Pro Leu Arg Ser Lys Gln Pro Leu Gln Leu Gly Glu Cys  
 245 250 255  
 Arg Ser Ala Lys Trp Glu Asn Leu Asn Gly Thr Thr Asn Ala Gly Lys  
 260 265 270  
 Ala Gly Leu Pro Gln Phe Leu Gly Gln Leu Leu Gly Pro Lys Ala Ser  
 275 280 285  
 Asp Tyr Asn Tyr Asn Pro Asn Asp Ala Phe Thr Phe Cys Arg Gln Ala  
 290 295 300  
 Tyr Leu Asn Cys Leu Asn Glu Ala Lys Arg Arg Lys Thr Thr Val Val  
 305 310 315 320  
 Gln Leu Pro Leu Leu Ser Ser His Phe Pro Gly Ser Pro Lys Asp Glu  
 325 330 335  
 Glu Thr Thr Ser Leu Arg Leu Gln Trp Ile Asp Gly Val Lys Leu Ala  
 340 345 350  
 Leu Ile Asp Ala Leu Gln Thr Phe Gly Ser Glu Ala Glu Asn Gln Asn  
 355 360 365  
 Gln Pro Trp Val Ile Ile Leu Thr Thr Leu Ala Arg His Pro Leu Ile  
 370 375 380  
 Thr Pro  
 385

<210> 373  
 <211> 121  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 373  
 Lys Thr Met Pro Val Ser Ser Ala Pro Leu Pro Thr Ser His Arg Pro  
 1 5 10 15  
 Ser Ser Gly Asn Leu Gly Leu Met Glu Pro Asn Ser Lys Ala Leu Lys  
 20 25 30  
 Ala Lys His Gln Asp Lys Thr Thr Lys Thr Ile Lys Leu Leu Val Lys  
 35 40 45  
 Ile Leu Val Ala Ile Leu Val Ile Glu Val Leu Gly Ile Ile Ala Ala  
 50 55 60  
 Phe Phe Ile Pro Gly Thr Pro Pro Ile Cys Leu Ile Ile Leu Gly Gly  
 65 70 75 80  
 Leu Ile Leu Thr Thr Val Leu Cys Val Leu Leu Leu Val Ile Lys Leu  
 85 90 95  
 Ala Leu Val Asn Lys Thr Glu Gly Thr Thr Ala Glu Gln Gln Ile Lys  
 100 105 110  
 Arg Lys Leu Ser Ser Lys Ser Ile Ser  
 115 120

<210> 374  
 <211> 117  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 374  
 Asn Tyr Arg Ala Cys His Arg Asn Ile Gly Asn His Met Ser Ser Pro  
 1 5 10 15  
 Val Val Thr Gly Thr Ser Ser Ala Ser Pro Val Glu Gln Thr Lys Leu  
 20 25 30  
 Gly Glu Phe Leu Glu Arg Leu Ser Gly Ser Gly Arg Cys Ile Lys Ile  
 35 40 45  
 Ala Phe Ala Ala Ser Thr Ala Leu Leu Leu Leu Asn Thr Phe Val Ser  
 50 55 60  
 Gly Ile Val Ala Ile Ala Met Ile Phe Val Ala Thr Ser Val Gly Ala  
 65 70 75 80  
 Tyr Phe Thr Val Ile Gly Pro Leu Phe Leu Leu Ser Leu Ile Leu Leu  
 85 90 95  
 Ala Ile Met Leu Ile Ser Met Tyr Lys Ile Thr His Pro Ser Gln Asn  
 100 105 110  
 Thr Pro Ile Ser Asn  
 115

<210> 375

<211> 621

<212> PRT

<213> Chlamydia pneumoniae

<400> 375  
 Asn Ser Glu Ile Phe Glu Ile Phe Met Thr Leu Ile Thr Pro Ala Ile  
 1 5 10 15  
 Asn Ser Ser Arg Arg Lys Thr His Thr Val Arg Ile Gly Asn Leu Tyr  
 20 25 30  
 Ile Gly Ser Asp His Ser Ile Lys Thr Gln Ser Met Thr Thr Thr Leu  
 35 40 45  
 Thr Thr Asp Ile Asp Ser Thr Val Glu Gln Ile Tyr Ala Leu Ala Glu  
 50 55 60  
 His Asn Cys Asp Ile Val Arg Val Thr Val Gln Gly Ile Lys Glu Ala  
 65 70 75 80  
 Gln Ala Cys Glu Lys Ile Lys Glu Arg Leu Ile Ala Leu Gly Leu Asn  
 85 90 95  
 Ile Pro Leu Val Ala Asp Ile His Phe Phe Pro Gln Ala Ala Met Leu  
 100 105 110  
 Val Ala Asp Phe Ala Asp Lys Val Arg Ile Asn Pro Gly Asn Tyr Ile  
 115 120 125  
 Asp Lys Arg Asn Met Phe Lys Gly Thr Lys Ile Tyr Thr Glu Ala Ser  
 130 135 140  
 Tyr Ala Gln Ser Leu Leu Arg Leu Glu Glu Lys Phe Ala Pro Leu Val  
 145 150 155 160  
 Glu Lys Cys Lys Arg Leu Gly Lys Ala Met Arg Ile Gly Val Asn His  
 165 170 175  
 Gly Ser Leu Ser Glu Arg Ile Met Gln Lys Tyr Gly Asp Thr Ile Glu  
 180 185 190  
 Gly Met Val Ala Ser Ala Ile Glu Tyr Ile Ala Val Cys Glu Lys Leu  
 195 200 205  
 Asn Tyr Arg Asp Val Val Phe Ser Met Lys Ser Ser Asn Pro Lys Ile  
 210 215 220  
 Met Val Thr Ala Tyr Arg Gln Leu Ala Lys Asp Leu Asp Ala Arg Gly  
 225 230 235 240  
 Trp Leu Tyr Pro Leu His Leu Gly Val Thr Glu Ala Gly Met Gly Val  
 245 250 255  
 Asp Gly Ile Ile Lys Ser Ala Val Gly Ile Gly Thr Leu Leu Ala Glu  
 260 265 270  
 Gly Leu Gly Asp Thr Ile Arg Cys Ser Leu Thr Gly Cys Pro Thr Thr  
 275 280 285

Glu	Ile	Pro	Val	Cys	Asp	Ser	Leu	Leu	Arg	His	Thr	Lys	Ile	Tyr	Leu
290						295					300				
Asp	Leu	Pro	Glu	Lys	Lys	Asn	Pro	Phe	Ser	Leu	Gln	His	Ser	Glu	Asn
305					310					315					320
Phe	Val	Ser	Ala	Ala	Glu	Lys	Pro	Ala	Lys	Thr	Thr	Leu	Trp	Gly	Asp
			325						330					335	
Val	Tyr	Gly	Val	Phe	Leu	Lys	Leu	Tyr	Pro	His	His	Leu	Thr	Asp	Phe
			340					345					350		
Thr	Pro	Glu	Glu	Leu	Leu	Glu	His	Leu	Gly	Val	Asn	Pro	Val	Thr	Lys
		355					360					365			
Glu	Lys	Ala	Phe	Thr	Thr	Pro	Glu	Gly	Val	Val	Val	Pro	Pro	Glu	Leu
	370					375					380				
Lys	Asp	Ala	Pro	Ile	Thr	Asp	Val	Leu	Arg	Glu	His	Phe	Leu	Val	Phe
385					390					395					400
His	His	His	Gln	Val	Pro	Cys	Leu	Tyr	Glu	His	Asn	Glu	Glu	Ile	Trp
			405						410					415	
Asp	Ser	Pro	Ala	Val	His	Gln	Ala	Pro	Phe	Val	His	Phe	His	Ala	Ser
			420					425					430		
Asp	Pro	Phe	Ile	His	Thr	Ser	Arg	Asp	Phe	Phe	Glu	Lys	Gln	Gly	His
		435					440					445			
Gln	Gly	Lys	Pro	Thr	Lys	Leu	Val	Phe	Ser	Arg	Asp	Phe	Asp	Asn	Lys
	450					455					460				
Glu	Glu	Ala	Ala	Ile	Ser	Ile	Ala	Thr	Glu	Phe	Gly	Ala	Leu	Leu	Leu
465					470					475					480
Asp	Gly	Leu	Gly	Glu	Ala	Val	Val	Leu	Asp	Leu	Pro	Asn	Leu	Pro	Leu
				485					490					495	
Gln	Asp	Val	Leu	Lys	Ile	Ala	Phe	Gly	Thr	Leu	Gln	Asn	Ala	Gly	Val
		500						505					510		
Arg	Leu	Val	Lys	Thr	Glu	Tyr	Ile	Ser	Cys	Pro	Met	Cys	Gly	Arg	Thr
		515					520					525			
Leu	Phe	Asp	Leu	Glu	Glu	Val	Thr	Thr	Arg	Ile	Arg	Lys	Arg	Thr	Gln
	530					535					540				
His	Leu	Pro	Gly	Leu	Lys	Ile	Ala	Ile	Met	Gly	Cys	Ile	Val	Asn	Gly
545					550					555					560
Pro	Gly	Glu	Met	Ala	Asp	Ala	Asp	Phe	Gly	Phe	Val	Gly	Ser	Lys	Thr
				565					570					575	
Gly	Met	Ile	Asp	Leu	Tyr	Val	Lys	His	Thr	Cys	Val	Lys	Ala	His	Ile
			580					585					590		
Pro	Met	Glu	Asp	Ala	Glu	Glu	Glu	Leu	Ile	Arg	Leu	Leu	Gln	Glu	His
		595					600					605			
Gly	Val	Trp	Lys	Asp	Pro	Glu	Glu	Thr	Lys	Leu	Thr	Val			
	610					615					620				

<210> 376

<211> 251

<212> PRT

<213> Chlamydia pneumoniae

<400> 376

Val	Asp	Ser	Met	Thr	Leu	Ser	Phe	His	Thr	His	Pro	Leu	Asn	Tyr	Trp
1				5					10					15	
Thr	Phe	Glu	Glu	Phe	Asp	Gly	Leu	Pro	Ile	Arg	His	Gly	Val	Phe	Ser
			20					25					30		
Lys	Gln	Lys	Asp	Ala	Glu	Gly	Thr	Val	Phe	Ala	Ala	Lys	Asn	Pro	Glu
		35					40					45			
Ile	Ala	Ser	Ala	Leu	Gln	Ser	Pro	Lys	Tyr	Cys	Asp	Leu	His	Gln	Arg
	50					55					60				
His	Gly	Thr	Ser	Val	Arg	Cys	Val	Thr	Pro	Thr	Ser	Pro	Thr	Tyr	Gln
65					70					75					80
Pro	Ala	Asp	Gly	Leu	Cys	Thr	Gln	Ser	Pro	Leu	Leu	Ser	Leu	His	Ile
				85					90					95	

Arg His Ser Asp Cys Gln Ala Ala Ile Phe Tyr Asp Arg Glu His His  
 100 105 110  
 Ala Ile Ala Asn Val His Ser Gly Trp Arg Gly Leu Leu Gly Asn Ile  
 115 120 125  
 Tyr Ala Val Thr Val Gly Thr Met Lys Lys Leu Phe His Thr Lys Pro  
 130 135 140  
 Gln Asp Leu Phe Val Ala Ile Gly Pro Ser Ile Gly Pro Asp Tyr Ala  
 145 150 155 160  
 Ile Tyr Pro Asp Tyr Ala Thr Leu Phe Pro Arg Ser Phe Leu Pro Phe  
 165 170 175  
 Met Asn Pro Lys Asn His Phe Asp Leu Arg Ala Ile Ala Arg Lys Gln  
 180 185 190  
 Leu Thr Asn Leu Gly Ile Ser Lys Asp Arg Ile Phe Ile Ser Asp Leu  
 195 200 205  
 Cys Thr Tyr Thr Glu His Asp Ala Phe Phe Ser Ser Arg Tyr Leu Ala  
 210 215 220  
 His His Pro Asp Pro Asn Leu Thr Gly Gln His Ser Lys Asn Arg Asn  
 225 230 235 240  
 Asn Val Thr Ala Val Leu Leu Leu Pro Arg Asp  
 245 250

<210> 377  
 <211> 168  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 377  
 Arg Leu Ser Met Lys Leu Gly Ala Ser Thr Asn His Lys Val His Glu  
 1 5 10 15  
 Pro Val Lys Pro Lys Lys Ala Gln Leu Ala Glu Ile Glu Ala Asn Lys  
 20 25 30  
 Thr Gln Ala Thr Glu Gly Thr Leu Arg Ser Lys Ser Leu Ala Leu Gln  
 35 40 45  
 Ile Ala Arg Ala Val Leu Tyr Ile Leu Phe Ala Ala Leu Met Leu Ala  
 50 55 60  
 Ala Gly Ile Thr Phe Val Thr Phe Leu Ala Leu Gly Phe Pro Leu Ile  
 65 70 75 80  
 Gln Ala Tyr Ser Ile Ala Gly Ile Ile Thr Leu Val Gly Leu Ala Ile  
 85 90 95  
 Gly Leu Val Leu Leu Ile Leu Ser Leu Leu Pro Lys Glu Asp Glu Glu  
 100 105 110  
 Ala Asp Ala Leu Ser Arg Asn Ala Leu Leu Pro Leu Thr Ile Ile Val  
 115 120 125  
 Ile Glu Gln Gln Pro Ile Thr Pro Lys Pro Glu Ile Pro Tyr Ser Tyr  
 130 135 140  
 Leu Thr Lys Leu Ala Leu Leu Thr Ser Leu Phe Leu Thr Leu Arg Arg  
 145 150 155 160  
 Ser Ser Ser Gln Arg Lys Thr His  
 165

<210> 378  
 <211> 205  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 378  
 Phe Lys Val Val Thr Ala Lys Ala Pro Asn Leu Thr Glu Ile Arg Asp  
 1 5 10 15  
 His Gly Ala Arg Val Pro Ser Leu Phe Leu Leu Ser Pro Glu Thr Ser  
 20 25 30

His Trp Lys Gly Asp Lys Glu Val Ser Ala Pro Leu Lys Gln Leu Gln  
 35 40 45  
 Asp Leu Leu Gly Glu Glu Gln Trp Glu Ala Met Lys Thr Lys Met Asn  
 50 55 60  
 Ser Arg Lys Lys Ala Gly Gln Trp Ala Ile Phe Asn Ser Pro Thr Pro  
 65 70 75 80  
 Gly Val Ser Ser Thr Leu Val Leu Ala Trp Thr Pro Trp Gly Tyr Tyr  
 85 90 95  
 Asp Lys Asp Val Gln Asp Ile Leu Glu Arg Lys Asp Pro Met Ser Ser  
 100 105 110  
 Ser Leu Ser Glu Lys Asp Ser Lys Glu Phe Leu Lys Asn Leu Phe Val  
 115 120 125  
 Asp Leu Leu Glu Asn Gly Phe Thr Ser Val His Ile His Ala Glu Glu  
 130 135 140  
 Ala Phe Thr Pro Leu Asp His Thr Gly Lys Pro His Phe Lys Arg Asp  
 145 150 155 160  
 Asn Val Tyr Leu Pro Gly Lys Leu Leu Gly Ala Leu Asn Glu Ala Ala  
 165 170 175  
 Val Gln Ala Asn Val Ser Ala Asp Thr Gln Phe Thr Leu Phe Leu Thr  
 180 185 190  
 Gln Asp Glu Cys Asn Pro Phe His Asp Lys Lys Arg Gly  
 195 200 205

<210> 379

<211> 365

<212> PRT

<213> Chlamydia pneumoniae

<400> 379

Ile Met Thr Thr Glu Val Arg Ile Pro Asn Ile Ala Glu Ser Ile Ser  
 1 5 10 15  
 Glu Val Thr Val Ala Ser Leu Leu Val Thr Glu Gly Ala Leu Ile Gln  
 20 25 30  
 Glu Asn Gln Gly Leu Leu Glu Ile Glu Ser Asp Lys Val Asn Gln Leu  
 35 40 45  
 Ile Tyr Ala Pro Val Ser Gly Arg Ile Phe Trp Glu Val Ser Glu Gly  
 50 55 60  
 Asp Val Val Pro Val Gly Gly Val Val Gly Lys Ile Glu Pro Ala Gly  
 65 70 75 80  
 Glu Gly Glu Glu Leu Gly Asp Ser Gln Ser Lys Glu Thr Ile Glu Ala  
 85 90 95  
 Glu Ile Ile Cys Phe Pro Gln Ser Gly Val Arg Gln Ser Pro Pro Glu  
 100 105 110  
 Asn Lys Thr Phe Ile Pro Leu Arg Asp Gln Met Asp Gln Gly Ser Gln  
 115 120 125  
 Gly Leu Ser Ala Gly Asp Arg Gly Glu Thr Arg Glu Arg Met Thr Ser  
 130 135 140  
 Ile Arg Lys Thr Ile Ser Arg Arg Leu Leu Ser Ala Leu His Glu Ser  
 145 150 155 160  
 Ala Met Leu Thr Thr Phe Asn Glu Val Tyr Met Thr Pro Leu Phe His  
 165 170 175  
 Leu Arg Lys Glu Lys Gln Glu Glu Phe Leu Ser Arg Tyr Gly Val Lys  
 180 185 190  
 Leu Gly Phe Met Ser Phe Phe Val Lys Ala Val Leu Glu Ala Leu Lys  
 195 200 205  
 Ala Tyr Pro Arg Val Asn Ala Tyr Ile Asp Gly Glu Glu Ile Val Tyr  
 210 215 220  
 Arg His Tyr Tyr Asp Ile Ser Ile Ala Val Gly Ile Asp Arg Gly Leu  
 225 230 235 240  
 Val Val Pro Val Ile Arg Asp Cys Asp Lys Leu Ser Asn Gly Glu Ile  
 245 250 255

Glu	Gln	Lys	Leu	Ala	Asp	Leu	Ala	Leu	Arg	Ala	Arg	Glu	Gly	Leu	Leu
			260					265					270		
Ala	Ile	Ala	Glu	Leu	Glu	Gly	Gly	Gly	Phe	Thr	Ile	Thr	Asn	Gly	Gly
		275					280					285			
Val	Tyr	Gly	Ser	Leu	Leu	Ser	Thr	Pro	Ile	Ile	Asn	Pro	Pro	Gln	Val
	290					295					300				
Gly	Ile	Leu	Gly	Met	His	Lys	Ile	Glu	Lys	Arg	Pro	Val	Val	Leu	Asp
305					310					315					320
Asn	Glu	Ile	Val	Ile	Ala	Asp	Met	Met	Tyr	Val	Ala	Leu	Ser	Tyr	Asp
			325						330					335	
His	Arg	Leu	Ile	Asp	Gly	Lys	Glu	Ala	Val	Gly	Phe	Leu	Val	Lys	Val
		340					345						350		
Lys	Glu	Gly	Leu	Glu	Asn	Pro	Ala	Ser	Leu	Leu	Asp	Leu			
		355					360					365			

<210> 380

<211> 917

<212> PRT

<213> Chlamydia pneumoniae

<400> 380

Ile	Val	Phe	Ile	Glu	Phe	Asn	Tyr	Phe	Met	Asp	Ser	Glu	Phe	Val	Gly
1			5					10					15		
Gln	Val	Tyr	Ser	Ser	Asp	Met	Asp	Trp	Ile	Glu	Ser	Met	Tyr	Gln	Arg
		20					25					30			
Phe	Met	Asn	His	Glu	Thr	Leu	Asp	Pro	Ser	Trp	Lys	Tyr	Phe	Phe	Glu
	35					40					45				
Gly	Tyr	Gln	Leu	Gly	Gln	Ala	Ala	Ser	Pro	Ser	Glu	Ala	Ser	Thr	Lys
	50				55					60					
Ile	Ser	Gly	Asn	Glu	Thr	Ile	Ala	Met	Leu	Gln	Glu	Gln	Lys	Ser	Gln
65				70					75					80	
Phe	Leu	Cys	Thr	Ile	Tyr	Arg	Tyr	Tyr	Gly	Tyr	Leu	Gln	Ser	Gln	Ile
			85					90					95		
Ser	Thr	Leu	Ala	Pro	Thr	Thr	Asp	Ser	Arg	Phe	Ile	Gln	Glu	Lys	Ile
		100					105					110			
Ala	Lys	Ile	Asp	Leu	Asp	Glu	Gln	Val	Pro	Ser	Ala	Gly	Leu	Leu	Pro
	115						120					125			
Lys	Ala	Gln	Val	Ser	Val	Arg	Glu	Leu	Ile	Glu	Ala	Leu	Lys	Lys	Cys
	130					135					140				
Tyr	Cys	Gly	Ser	Leu	Thr	Leu	Glu	Thr	Leu	Thr	Cys	Thr	Pro	Glu	Leu
145					150					155				160	
Gln	Glu	Phe	Val	Trp	Asn	Leu	Met	Glu	Lys	Arg	Gln	Val	Glu	Arg	Phe
			165					170					175		
Ala	Glu	Gln	Leu	Leu	Arg	Ser	Tyr	Lys	Asp	Leu	Cys	Lys	Ala	Thr	Phe
		180						185					190		
Phe	Glu	Glu	Phe	Leu	Gln	Ile	Lys	Phe	Thr	Gly	Gln	Lys	Arg	Phe	Ser
	195					200					205				
Leu	Glu	Gly	Gly	Glu	Thr	Leu	Val	Pro	Met	Leu	Glu	His	Leu	Val	His
	210				215						220				
Tyr	Gly	Ser	Ala	Leu	Gly	Ile	Ser	Asn	Tyr	Val	Leu	Gly	Met	Ala	His
225				230					235					240	
Arg	Gly	Arg	Leu	Asn	Val	Leu	Thr	Asn	Val	Leu	Gly	Lys	Pro	Tyr	Arg
			245					250					255		
Tyr	Val	Phe	Met	Glu	Phe	Glu	Asp	Asp	Pro	Ala	Ala	Arg	Gly	Leu	Glu
		260					265					270			
Ser	Val	Gly	Asp	Val	Lys	Tyr	His	Lys	Gly	Tyr	Val	Leu	Lys	Ser	His
	275					280					285				
Gln	Lys	Asp	Arg	Glu	Thr	Thr	Phe	Val	Met	Leu	Pro	Asn	Ala	Ser	His
	290				295						300				
Leu	Glu	Ser	Val	Asp	Pro	Ile	Val	Glu	Gly	Val	Val	Ala	Ala	Leu	Gln
305					310					315					320

His	Gln	Gly	His	Ala	Gly	Lys	Glu	Gln	Ser	Ser	Leu	Ala	Ile	Leu	Val		
				325					330						335		
His	Gly	Asp	Ala	Ala	Phe	Ser	Gly	Gln	Gly	Val	Val	Tyr	Glu	Thr	Leu		
			340					345					350				
Gln	Leu	Ser	Arg	Val	Pro	Gly	Tyr	Ser	Thr	Glu	Gly	Thr	Leu	His	Ile		
		355					360					365					
Val	Val	Asn	Asn	Tyr	Ile	Gly	Phe	Thr	Ala	Val	Pro	Arg	Glu	Ser	Arg		
	370					375					380						
Ser	Thr	Pro	Tyr	Cys	Thr	Asp	Ile	Ala	Lys	Met	Leu	Gly	Ile	Pro	Val		
385					390					395					400		
Phe	Arg	Val	Asn	Ser	Glu	Asp	Val	Val	Ala	Cys	Ile	Glu	Ala	Ile	Glu		
			405						410					415			
Tyr	Ala	Leu	Gln	Val	Arg	Glu	Arg	Phe	Ser	Cys	Asp	Val	Ile	Ile	Asp		
			420					425					430				
Leu	Cys	Cys	Tyr	Arg	Lys	Tyr	Gly	His	Asn	Glu	Ser	Asp	Asp	Pro	Ser		
	435						440					445					
Val	Thr	Ala	Pro	Leu	Leu	Tyr	Asp	Gln	Ile	Lys	Arg	Lys	Lys	Ser	Ile		
	450					455					460						
Arg	Glu	Leu	Phe	Arg	Gln	Tyr	Leu	Leu	Glu	Gly	Gln	Phe	Ala	Asp	Ile		
465					470					475					480		
Ser	Glu	Glu	Thr	Leu	Ala	Ser	Ile	Glu	Lys	Glu	Ile	Gln	Glu	Ser	Leu		
				485					490					495			
Asn	Arg	Glu	Phe	Gln	Val	Leu	Lys	Gly	Thr	Asp	Pro	Glu	Pro	Phe	Pro		
			500					505					510				
Lys	Lys	Glu	Cys	His	His	Cys	Asp	Arg	Leu	Asn	Asn	Gly	Glu	Leu	Ile		
	515						520					525					
Leu	His	Asp	Cys	Asp	Val	Ser	Leu	Asp	Arg	Glu	Thr	Leu	Phe	His	Met		
	530					535					540						
Ser	Ser	Arg	Leu	Cys	Gly	Phe	Pro	Asp	Asn	Phe	His	Pro	His	Pro	Lys		
545					550					555					560		
Ile	Lys	Thr	Leu	Leu	Glu	Lys	Arg	Met	Lys	Met	Ala	Glu	Gly	Gly	Val		
				565					570					575			
Gly	Tyr	Asp	Trp	Ala	Met	Ala	Glu	Glu	Leu	Ala	Phe	Ala	Ser	Leu	Leu		
			580					585					590				
Ile	Glu	Gly	Tyr	Asn	Leu	Arg	Leu	Ser	Gly	Gln	Asp	Ser	Ile	Arg	Gly		
	595						600					605					
Thr	Phe	Ser	Gln	Arg	His	Leu	Val	Trp	Ser	Asp	Thr	Val	Thr	Gly	Asp		
	610					615					620						
Thr	Tyr	Ser	Pro	Leu	Tyr	His	Leu	Ser	Ala	Glu	Gln	Gly	Ser	Val	Glu		
625					630					635					640		
Met	Tyr	Asn	Ser	Pro	Leu	Ser	Glu	Tyr	Ala	Ile	Leu	Gly	Phe	Glu	Tyr		
				645					650					655			
Gly	Tyr	Ala	Gln	Gln	Ala	Leu	Lys	Thr	Leu	Val	Leu	Trp	Glu	Ala	Gln		
			660					665					670				
Phe	Gly	Asp	Phe	Ala	Asn	Gly	Ala	Gln	Ile	Ile	Phe	Asp	Gln	Tyr	Ile		
		675					680					685					
Ser	Ser	Gly	Ile	Gln	Lys	Trp	Asp	Leu	His	Ser	Asp	Ile	Val	Leu	Leu		
	690					695					700						
Leu	Pro	His	Gly	Tyr	Glu	Gly	Gln	Gly	Pro	Glu	His	Ser	Ser	Ser	Arg		
705					710					715					720		
Ile	Glu	Arg	Tyr	Leu	Gln	Leu	Ala	Ala	Asn	Trp	Asn	Phe	Gln	Val	Val		
				725					730					735			
Leu	Pro	Ser	Thr	Pro	Val	Gln	Tyr	Phe	Arg	Ile	Leu	Arg	Glu	His	Ala		
			740					745					750				
Lys	Arg	Asp	Leu	Ser	Leu	Pro	Leu	Val	Ile	Phe	Thr	Pro	Lys	Leu	Leu		
		755					760					765					
Leu	Arg	Tyr	Pro	Gln	Cys	Val	Ser	Ser	Ile	Glu	Glu	Phe	Thr	Glu	Pro		
	770					775					780						
Gly	Gly	Phe	Arg	Ala	Ile	Leu	Glu	Asp	Ala	Asp	Pro	Asn	Tyr	Asp	Ala		
785					790					795					800		



Ser Ile Leu Val Leu Cys Ser Gly Lys Ile Tyr Tyr Asp Tyr Ala Glu  
 805 810 815  
 Met Leu Pro Gln Asp Arg Arg Lys Asp Phe Ser Cys Leu Arg Ile Glu  
 820 825 830  
 Ser Leu Tyr Pro Leu Ala Leu Glu Asp Leu Val Ser Leu Ile Asp Lys  
 835 840 845  
 Tyr Ser His Leu Lys His Phe Val Trp Leu Gln Glu Glu Ser Lys Asn  
 850 855 860  
 Met Gly Ala Tyr Asp Tyr Met Phe Met Ala Leu Gln Asp Ile Leu Pro  
 865 870 875 880  
 Glu Lys Leu Leu Tyr Ile Gly Arg Pro Arg Ser Ser Ser Thr Ala Ser  
 885 890 895  
 Gly Ser Ala Lys Leu Ser Arg Gln Glu Leu Val Thr Cys Met Glu Thr  
 900 905 910  
 Leu Phe Ser Leu Arg  
 915

<210> 381  
 <211> 166  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 381  
 Lys Asn Lys Lys Met Leu Cys Thr Cys Ser Arg Ile Gln Asp Gly Asn  
 1 5 10 15  
 Pro Trp Met Lys Ser Glu Arg Leu Lys Lys Leu Glu Ser Glu Leu His  
 20 25 30  
 Asp Leu Thr Gln Trp Met Gln Leu Gly Leu Val Pro Lys Lys Glu Ile  
 35 40 45  
 Ser Arg His Gln Glu Glu Ile Arg Ile Leu Glu His Lys Ile Tyr Glu  
 50 55 60  
 Glu Lys Glu Arg Leu Gln Leu Leu Lys Glu Asn Gly Glu Ile Glu Glu  
 65 70 75 80  
 Tyr Val Thr Pro Arg Arg Ser Pro Ala Lys Thr Val Tyr Pro Asp Gly  
 85 90 95  
 Pro Ser Met Ser Asp Ile Glu Phe Val Glu Pro Thr Glu Thr Glu Ile  
 100 105 110  
 Asp Ile Asp Pro Gly Glu Thr Val Glu Leu Glu Leu Thr Asp Glu Gly  
 115 120 125  
 Arg Glu Asp Gly Ala Val Glu Val Asp Tyr Ser His Glu Asp Asp Glu  
 130 135 140  
 Asp Pro Phe Ser Asp Arg Asn Arg Trp Arg Arg Gly Gly Ile Ile Asp  
 145 150 155 160  
 Pro Asp Ala Asn Glu Trp  
 165

<210> 382  
 <211> 402  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 382  
 Lys Ser Thr Ile Pro Thr Lys Thr Met Lys Thr Leu Ser Ala Ile Ala  
 1 5 10 15  
 Ile Ala Gly Asp Ala Val Val Ser Leu Ile Pro Met Leu Met Asn Gly  
 20 25 30  
 Lys Ala Pro Leu Ala Leu Tyr Ile His Ile Pro Phe Cys Thr Lys Lys  
 35 40 45  
 Cys Arg Tyr Cys Ser Phe Tyr Thr Ile Pro Tyr Lys Ser Glu Ser Val  
 50 55 60

Ser Leu Tyr Cys Asn Ala Val Ile Gln Glu Gly Leu Arg Lys Leu Ala  
 65 70 75 80  
 Pro Ile Gln Glu Thr His Phe Ile Glu Thr Val Phe Phe Gly Gly Gly  
 85 90 95  
 Thr Pro Ser Leu Val Ser Pro Leu Asp Leu Lys Arg Ile Leu Lys Glu  
 100 105 110  
 Leu Ala Pro His Ala Arg Glu Ile Thr Leu Glu Ala Asn Pro Glu Asn  
 115 120 125  
 Leu Thr Val Ser Tyr Leu Arg Gln Leu Gln Glu Thr Pro Ile Asn Arg  
 130 135 140  
 Ile Ser Val Gly Val Gln Thr Phe Asp Asp Ser Ile Leu Gln Leu Leu  
 145 150 155 160  
 Gly Arg Thr His Ser Ser Ala Ala Ile Thr Ala Leu Gln Glu Cys  
 165 170 175  
 Gln Asn His Gly Phe Ser Asn Leu Ser Ile Asp Leu Ile Tyr Gly Leu  
 180 185 190  
 Pro Thr Gln Ser Leu Glu Ile Phe Leu Ser Asp Leu His Gln Ala Leu  
 195 200 205  
 Thr Leu Pro Ile Thr His Ile Ser Leu Tyr Asn Leu Thr Ile Asp Pro  
 210 215 220  
 His Thr Ser Phe Tyr Lys His Arg Lys Ile Leu Val Pro Thr Ile Ala  
 225 230 235 240  
 Gln Glu Glu Ile Leu Ala Glu Met Ser Leu Leu Ala Glu Asn Leu Leu  
 245 250 255  
 Leu Ser Gln Gly Phe Gln Arg Tyr Glu Leu Ala Ser Tyr Ala Lys Pro  
 260 265 270  
 Asp Tyr Pro Ala Lys His Asn Leu Tyr Tyr Trp Thr Asp Arg Pro Phe  
 275 280 285  
 Leu Gly Leu Gly Val Ser Ala Ser Gln Tyr Leu His Gly Glu Arg Ser  
 290 295 300  
 Lys Asn Tyr Ser His Ile Ser His Tyr Leu Arg Ala Val Arg Lys Asn  
 305 310 315 320  
 Leu Pro Thr Gln Glu Thr Ser Glu Ile Leu Pro Lys Lys Glu Arg Ile  
 325 330 335  
 Lys Glu Ala Leu Ala Leu Arg Leu Arg Leu Leu Glu Gly Ala Asp Leu  
 340 345 350  
 Ala Glu Phe Pro Ser Thr Leu Ile Ser Met Leu Thr Gln Asp Val Lys  
 355 360 365  
 Leu Gln Asn Leu Phe Ser Val His Gly Gln Cys Leu Ala Leu Asn Arg  
 370 375 380  
 Gln Gly Arg Leu Phe His Asp Thr Ile Ala Glu Glu Ile Met Gly Tyr  
 385 390 395 400  
 Ser Phe

<210> 383  
 <211> 600  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 383  
 Ser Leu Pro Asn Lys Phe Arg Ala Leu Met Thr Ala Pro Thr Glu Ser  
 1 5 10 15  
 Arg Ser Ser Pro Pro Thr Leu Leu Glu Thr Glu Pro Leu Ser Pro  
 20 25 30  
 Asn Pro Ile Pro Ala Asp Ile Gln Ile Pro Arg Ile Thr Ile Ser Pro  
 35 40 45  
 Pro Ser Leu Asp Val Ser Thr Val Ala Ser Ser Ala Glu Asp Ile Ser  
 50 55 60  
 Val Phe Ile Ala Gly Gly Pro Arg Ser Ser Ser Ala Ser Val Ala  
 65 70 75 80

Ser	Asp	Val	Tyr	Glu	Leu	Val	Cys	Leu	Cys	Gly	Gly	Asp	Glu	Asp	Pro	
				85					90					95		
Glu	Pro	Pro	Asp	Ser	Glu	Val	Arg	Thr	Leu	Tyr	Val	Asn	Gly	Ser	Trp	
			100					105					110			
Gln	Thr	His	Gln	Glu	Ala	Val	Gln	Glu	Leu	Leu	Tyr	Ile	Ser	Glu	Val	
		115					120					125				
Arg	Gly	Glu	Ala	Val	Arg	Leu	Leu	Tyr	Asn	Asp	Gly	Ser	Gly	Met	Ser	
	130					135					140					
Pro	Trp	Pro	Ile	Ser	Pro	Cys	Arg	Thr	Leu	Pro	Thr	Leu	Asp	His	Pro	
145					150					155					160	
Leu	Cys	Gln	Ala	Leu	Leu	Thr	Val	Trp	Glu	Gln	Phe	Phe	Ser	Ala	Pro	
			165						170					175		
Glu	Asn	Gln	Asn	Arg	Glu	Phe	Leu	Val	Ile	Phe	Tyr	Gly	Asp	Ala	Ser	
			180					185					190			
Pro	Tyr	Ile	Gln	Gln	Ala	Leu	Thr	Gln	Ser	Arg	His	Ser	Pro	Arg	Ile	
		195					200					205				
Val	Val	Val	Gly	Ile	Ser	Pro	Thr	Val	Phe	Ile	Gln	Gly	Asp	Phe	Arg	
	210					215					220					
Val	His	Asn	Tyr	Arg	Val	Ser	Gly	Asp	Phe	Phe	Ser	Ser	Leu	Asp	Cys	
225					230				235						240	
Arg	Gly	Thr	Arg	Ala	Glu	Asn	Thr	Thr	Ile	Leu	Pro	Tyr	Ser	Ser	Gly	
			245						250					255		
Leu	Glu	Gly	Val	Phe	Leu	Pro	Ser	Ile	Arg	Cys	Pro	Ser	Phe	Thr	Trp	
		260						265					270			
Ala	Val	Arg	Phe	Gly	Glu	Gln	Cys	Leu	Val	Ala	Asn	Arg	Gly	Glu	Asp	
	275						280					285				
Val	Glu	Asp	Arg	Gly	Gly	Leu	Ser	Gln	Asp	Ala	Glu	Arg	Ser	Gln	Leu	
	290					295					300					
Pro	His	Ser	Glu	Arg	Asp	Leu	Ala	Val	Val	Ile	Asp	Ser	Thr	Asp	Pro	
305					310					315					320	
Ser	Ser	Met	Ser	Arg	Leu	Val	Glu	Trp	Leu	Asn	Gln	Gly	Ser	Pro	Ser	
			325						330					335		
Ser	Asp	Met	Glu	Ile	Asn	Pro	Tyr	Pro	Gln	Arg	Cys	Pro	Asp	Val	Ala	
		340						345					350			
Leu	Ser	Ala	Leu	Tyr	Ala	Ile	Ser	Arg	Val	Ser	Gly	Leu	Ala	Gln	Glu	
	355						360					365				
Trp	Ile	Leu	Ala	Ser	Val	His	Glu	Gly	Leu	Asp	Leu	Gln	Ile	Cys	Tyr	
	370					375					380					
Ser	Leu	Ile	Leu	Met	His	Thr	Thr	Phe	Ala	Val	Arg	Tyr	Phe	Phe	Leu	
385					390				395						400	
Leu	Phe	Thr	Asn	Tyr	Pro	Gln	Ser	Arg	Glu	Arg	Phe	Arg	Thr	Ala	Arg	
			405						410					415		
Ile	Val	Ala	Gln	Ser	Leu	Tyr	Leu	Pro	Ser	Ile	Leu	Val	Leu	Val	Phe	
		420						425				430				
Asp	Cys	Gly	Asn	Val	Leu	Arg	Lys	Leu	Trp	Met	Pro	Gln	Glu	Ile	Leu	
	435						440				445					
Arg	Ala	Ile	Phe	Ile	Ser	Ala	Ser	Thr	Ile	Ser	Gly	Ser	Ile	Val	Phe	
	450					455					460					
Val	Glu	Cys	Thr	Arg	Trp	Met	Gly	Arg	Gly	Leu	Arg	His	Arg	Val	Gln	
465					470					475					480	
Gln	Phe	Val	Gln	Gln	Arg	Val	Ile	Gly	Ser	Gly	Leu	Pro	Val	Gly	Thr	
			485						490					495		
Val	Arg	Ala	Ser	Tyr	Arg	Asp	Arg	Ala	Gly	Phe	Ile	Ile	Gly	Phe	Leu	
		500						505					510			
Gln	Thr	Val	His	Gly	Gly	Leu	Tyr	Leu	Pro	Val	Ser	Ile	Met	Val	Leu	
		515					520					525				
Asn	Gln	Ile	Ala	Ile	Gln	Val	Pro	Arg	Ile	Leu	Val	Arg	Pro	Asn	Asn	
	530					535					540					
Thr	Ala	Val	Tyr	Asp	Leu	His	Asn	Lys	Ser	Ala	Glu	Glu	Asn	Trp	Ser	
545					550					555					560	

Ser Gly Asp Val Leu Ala Val Gly Gln Thr Leu Asn Phe Ile Leu Cys  
565 570 575  
Ala Phe Val Leu Phe Val Asn Leu Trp Phe Phe Val Lys Ser Val Leu  
580 585 590  
Arg His Ser Arg Arg Arg Arg  
595 600

<210> 384  
<211> 239  
<212> PRT  
<213> Chlamydia pneumoniae

<400> 384  
Pro Val Thr Leu Tyr Leu Leu Pro Asn Thr Leu Gly Thr Arg Ala Val  
1 5 10 15  
Glu Thr Leu Pro Ser Val Ile Gly Glu Leu Val His Arg Leu Asp Gly  
20 25 30  
Leu Ile Val Glu Ser Asp Arg Gly Gly Arg Ala Phe Leu Ser Leu Trp  
35 40 45  
Lys Ile Pro Glu Val His Lys Phe Pro Leu Ala Ile Leu Ser Lys His  
50 55 60  
Ala Arg Leu Pro Lys Ala Trp Asp Phe Tyr Leu Glu Pro Ile Val Lys  
65 70 75 80  
His Gly Glu Asn Trp Gly Leu Ile Ser Asp Ala Gly Leu Pro Cys Ile  
85 90 95  
Ala Asp Pro Gly Ala Ser Leu Val Arg Arg Ala Arg Ala Leu Gly Ile  
100 105 110  
Pro Val Gln Ala Phe Ser Gly Pro Cys Ser Ile Thr Leu Ala Leu Met  
115 120 125  
Leu Ser Gly Leu Pro Ser Gln Ser Phe Thr Phe Leu Gly Tyr Leu Pro  
130 135 140  
Gln Ser Pro Lys Glu Arg Val Lys Ser Ile Lys Lys Ala Ala Thr Ser  
145 150 155 160  
Lys Glu Val Ser Thr Ser Val Cys Ile Glu Thr Ser Tyr Arg Asn Val  
165 170 175  
Tyr Thr Phe Glu Ser Leu Leu Asp Thr Leu Pro Ser Tyr Ala Glu Leu  
180 185 190  
Cys Val Ala Ser Asp Leu Ser Gly Pro Ser Glu Leu Val Leu Thr Arg  
195 200 205  
Gln Val Gln Ser Trp Arg Thr Thr Glu Asp Leu Gly Ser Val Lys Gln  
210 215 220  
Ser Ile Thr Lys Val Pro Thr Ile Phe Leu Phe His Ile Pro Asn  
225 230 235

<210> 385  
<211> 321  
<212> PRT  
<213> Chlamydia pneumoniae

<400> 385  
Val Gln Asp Thr Thr Phe Leu Thr Leu Pro Met Gln Lys Ser Leu Thr  
1 5 10 15  
Ser Phe Asp Asp Phe Ser Gln Ala Tyr Ala Glu Lys Val Pro Ala Ile  
20 25 30  
Ala Leu Ile Gly Ser Ala Leu Glu Asp Asp Lys Asp Ala Leu Ile Glu  
35 40 45  
Leu Leu Val Ser Glu Ser Phe Lys Glu Leu Gly Gly Gln Gly Leu Met  
50 55 60  
Pro Ala Thr Leu Met Ser Trp Thr Glu Thr Phe Ala Leu Phe Gln Glu  
65 70 75 80



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<210> 387
<211> 507
<212> PRT
<213> Chlamydia pneumoniae
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662

Glu Pro Leu Trp Arg Leu Pro Leu Val Lys Lys Tyr Asp Lys Thr Leu  
                   420                  425                  430  
 His Ser Asp Ile Ala Asp Met Lys Asn Leu Gly Ser Asn Arg Ala Gly  
                   435                  440                  445  
 Ala Ile Thr Ala Ala Leu Phe Leu Gln Arg Phe Leu Glu Glu Ser Ser  
                   450                  455                  460  
 Val Ala Trp Ala His Leu Asp Ile Ala Gly Thr Ala Tyr His Glu Lys  
                   465                  470                  475                  480  
 Glu Glu Asp Arg Tyr Pro Lys Tyr Ala Ser Gly Phe Gly Val Arg Ser  
                   485                  490                  495  
 Ile Leu Tyr Tyr Leu Glu Asn Ser Leu Ser Lys  
                   500                  505

<210> 388

<211> 166

<212> PRT

<213> Chlamydia pneumoniae

<400> 388

Lys Ser Lys Gly Tyr Leu Met Met Phe Gly His Phe Ala Gly Tyr Leu  
 1                  5                  10                  15  
 Gly Ala Asp Pro Glu Glu Arg Met Thr Ser Lys Gly Lys Arg Val Ile  
                   20                  25                  30  
 Thr Leu Arg Leu Gly Val Lys Thr Arg Val Gly Met Lys Asp Glu Thr  
                   35                  40                  45  
 Val Trp Cys Lys Cys Asn Ile Trp His Asn Arg Tyr Asp Lys Met Leu  
                   50                  55                  60  
 Pro Tyr Leu Lys Lys Gly Ser Gly Val Ile Val Ala Gly Asp Ile Ser  
                   65                  70                  75                  80  
 Val Glu Ser Tyr Met Ser Lys Asp Gly Ser Pro Gln Ser Ser Leu Val  
                   85                  90                  95  
 Ile Ser Val Asp Ser Leu Lys Phe Ser Pro Phe Gly Arg Asn Glu Gly  
                   100                  105                  110  
 Ser Arg Ser Pro Ser Leu Glu Asp Asn His Gln Gln Val Gly Tyr Glu  
                   115                  120                  125  
 Ser Val Ser Val Gly Phe Glu Gly Glu Ala Leu Asp Ala Glu Ala Ile  
                   130                  135                  140  
 Lys Asp Lys Asp Met Tyr Ala Gly Tyr Gly Gln Glu Gln Gln Tyr Val  
                   145                  150                  155                  160  
 Cys Glu Asp Val Pro Phe  
                   165

<210> 389

<211> 177

<212> PRT

<213> Chlamydia pneumoniae

<400> 389

Asn Asn Asn Asn Leu Leu Gln Gly Asp Ser Leu Met Ser Arg Gln Asn  
 1                  5                  10                  15  
 Ala Glu Glu Asn Leu Lys Asn Phe Ala Lys Glu Leu Lys Leu Pro Asp  
                   20                  25                  30  
 Val Ala Phe Asp Gln Asn Asn Thr Cys Ile Leu Phe Val Asp Gly Glu  
                   35                  40                  45  
 Phe Ser Leu His Leu Thr Tyr Glu Glu His Ser Asp Arg Leu Tyr Val  
                   50                  55                  60  
 Tyr Ala Pro Leu Leu Asp Gly Leu Pro Asp Asn Thr Gln Arg Lys Leu  
                   65                  70                  75                  80  
 Ala Leu Tyr Glu Lys Leu Leu Glu Gly Ser Met Leu Gly Gly Gln Met  
                   85                  90                  95

Ala	Gly	Gly	Gly	Val	Gly	Val	Ala	Thr	Lys	Glu	Gln	Leu	Ile	Leu	Met
			100					105					110		
His	Cys	Val	Leu	Asp	Met	Lys	Tyr	Ala	Glu	Thr	Asn	Leu	Leu	Lys	Ala
		115					120					125			
Phe	Ala	Gln	Leu	Phe	Ile	Glu	Thr	Val	Val	Lys	Trp	Arg	Thr	Val	Cys
	130					135					140				
Ala	Asp	Ile	Cys	Ala	Gly	Arg	Glu	Pro	Ser	Val	Asp	Thr	Met	Pro	Gln
145					150					155					160
Met	Pro	Gln	Gly	Gly	Gly	Met	Gln	Pro	Pro	Pro	Thr	Gly	Ile	Arg	
			165					170					175		
Ala															

<210> 390  
 <211> 666  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 390															
Ser	Thr	Met	Glu	Lys	Val	Ser	Ser	Tyr	Pro	Ser	Val	Pro	Leu	Pro	Leu
1				5					10				15		
Gly	Ala	Ser	Lys	Ile	Ser	Pro	Asn	Arg	Tyr	Arg	Phe	Ala	Leu	Tyr	Ala
			20					25					30		
Ser	Gln	Ala	Thr	Glu	Val	Ile	Leu	Ala	Leu	Thr	Asp	Glu	Asn	Ser	Glu
		35					40					45			
Val	Ile	Glu	Val	Pro	Leu	Tyr	Pro	Asp	Thr	His	Arg	Thr	Gly	Ala	Ile
	50					55					60				
Trp	His	Ile	Glu	Ile	Glu	Gly	Ile	Ser	Asp	Gln	Ser	Ser	Tyr	Ala	Phe
65					70					75					80
Arg	Val	His	Gly	Pro	Lys	Lys	His	Gly	Met	Gln	Tyr	Ser	Phe	Lys	Glu
				85					90					95	
Tyr	Leu	Ala	Asp	Pro	Tyr	Ala	Lys	Asn	Ile	His	Ser	Pro	Gln	Ser	Phe
			100					105					110		
Gly	Ser	Arg	Lys	Lys	Gln	Gly	Asp	Tyr	Ala	Phe	Cys	Tyr	Leu	Lys	Glu
		115					120					125			
Glu	Pro	Phe	Pro	Trp	Asp	Gly	Asp	Gln	Pro	Leu	His	Leu	Pro	Lys	Glu
	130					135					140				
Glu	Met	Ile	Ile	Tyr	Glu	Met	His	Val	Arg	Ser	Phe	Thr	Gln	Ser	Ser
145					150					155					160
Ser	Ser	Arg	Val	His	Ala	Pro	Gly	Thr	Phe	Leu	Gly	Ile	Ile	Glu	Lys
				165					170					175	
Ile	Asp	His	Leu	His	Lys	Leu	Gly	Ile	Asn	Ala	Val	Glu	Leu	Leu	Pro
			180					185					190		
Ile	Phe	Glu	Phe	Asp	Glu	Thr	Ala	His	Pro	Phe	Arg	Asn	Ser	Lys	Phe
		195					200					205			
Pro	Tyr	Leu	Cys	Asn	Tyr	Trp	Gly	Tyr	Ala	Pro	Leu	Asn	Phe	Phe	Ser
	210					215					220				
Pro	Cys	Arg	Arg	Tyr	Ala	Tyr	Ala	Ser	Asp	Pro	Cys	Ala	Pro	Ser	Arg
225					230					235					240
Glu	Phe	Lys	Thr	Leu	Val	Lys	Thr	Leu	His	Gln	Glu	Gly	Ile	Glu	Val
				245					250					255	
Ile	Leu	Asp	Val	Val	Phe	Asn	His	Thr	Gly	Leu	Gln	Gly	Thr	Thr	Cys
			260					265					270		
Ser	Leu	Pro	Trp	Ile	Asp	Thr	Pro	Ser	Tyr	Tyr	Ile	Leu	Asp	Ala	Gln
		275					280					285			
Gly	His	Phe	Thr	Asn	Tyr	Ser	Gly	Cys	Gly	Asn	Thr	Leu	Asn	Thr	Asn
	290					295				300					
Arg	Ala	Pro	Thr	Thr	Gln	Trp	Ile	Leu	Asp	Ile	Leu	Arg	Tyr	Trp	Val
305					310					315					320
Glu	Glu	Met	His	Val	Asp	Gly	Phe	Arg	Phe	Asp	Leu	Ala	Ser	Val	Phe
				325					330					335	



Ser Arg Gly Pro Ser Gly Ser Pro Leu Gln Phe Ala Pro Val Leu Glu  
 340 345 350  
 Ala Ile Ser Phe Asp Pro Leu Leu Ala Ser Thr Lys Ile Ile Ala Glu  
 355 360 365  
 Pro Trp Asp Ala Gly Gly Leu Tyr Gln Val Gly Tyr Phe Pro Thr Leu  
 370 375 380  
 Ser Pro Arg Trp Ser Glu Trp Asn Gly Pro Tyr Arg Asp Asn Val Lys  
 385 390 395 400  
 Ala Phe Leu Asn Gly Asp Gln Asn Leu Ile Gly Thr Phe Ala Ser Arg  
 405 410 415  
 Ile Ser Gly Ser Gln Asp Ile Tyr Pro His Gly Ser Pro Thr Asn Ser  
 420 425 430  
 Ile Asn Tyr Val Ser Cys His Asp Gly Phe Thr Leu Cys Asp Thr Val  
 435 440 445  
 Thr Tyr Asn His Lys His Asn Glu Ala Asn Gly Glu Asp Asn Arg Asp  
 450 455 460  
 Gly Thr Asp Ala Asn Tyr Ser Tyr Asn Phe Gly Thr Glu Gly Lys Thr  
 465 470 475 480  
 Glu Asp Pro Gly Ile Leu Glu Val Arg Glu Arg Gln Leu Arg Asn Phe  
 485 490 495  
 Phe Leu Thr Leu Met Val Ser Gln Gly Ile Pro Met Ile Gln Ser Gly  
 500 505 510  
 Asp Glu Tyr Ala His Thr Ala Glu Gly Asn Asn Asn Arg Trp Ala Leu  
 515 520 525  
 Asp Ser Asn Ala Asn Tyr Phe Leu Trp Asp Gln Leu Thr Ala Lys Pro  
 530 535 540  
 Thr Leu Met His Phe Leu Cys Asp Leu Ile Ala Phe Arg Lys Lys Tyr  
 545 550 555 560  
 Lys Thr Leu Phe Asn Arg Gly Phe Leu Ser Asn Lys Glu Ile Ser Trp  
 565 570 575  
 Val Asp Ala Met Gly Asn Pro Met Thr Trp Arg Pro Gly Asn Phe Leu  
 580 585 590  
 Ala Phe Lys Ile Lys Ser Pro Lys Ala His Val Tyr Val Ala Phe His  
 595 600 605  
 Val Gly Ala Gln Asp Gln Leu Ala Thr Leu Pro Lys Ala Ser Ser Asn  
 610 615 620  
 Phe Leu Pro Tyr Gln Ile Val Ala Glu Ser Gln Gln Gly Phe Val Pro  
 625 630 635 640  
 Gln Asn Val Ala Thr Pro Thr Val Ser Leu Gln Pro His Thr Thr Leu  
 645 650 655  
 Ile Ala Ile Ser His Ala Lys Glu Val Thr  
 660 665

<210> 391

<211> 312

<212> PRT

<213> Chlamydia pneumoniae

<400> 391

Thr Val Phe Asn Phe Lys Arg Phe Tyr Gln Lys Asp Ser Gln Arg Gln  
 1 5 10 15  
 Asn Gly Asn Thr Thr Cys Leu Arg Pro Phe Lys Lys Thr Cys Lys Glu  
 20 25 30  
 Leu Ile Glu Phe Arg Arg Arg Thr Val Lys Leu Leu Lys Asn Val Leu  
 35 40 45  
 Leu Gly Leu Phe Phe Ser Met Ser Ile Ser Gly Phe Ser Glu Val Lys  
 50 55 60  
 Val Ser Asp Thr Phe Val Lys Gln Asp Thr Val Val Glu Pro Lys Ile  
 65 70 75 80  
 Arg Val Leu Leu Ser Asn Glu Ser Thr Thr Ala Leu Ile Glu Ala Lys  
 85 90 95

Gly Pro Tyr Arg Ile Tyr Gly Asp Asn Val Leu Leu Asp Thr Ala Ile  
 100 105 110  
 Gln Gly Gln Arg Cys Val Val His Ala Leu Tyr Glu Gly Ile Arg Trp  
 115 120 125  
 Gly Glu Phe Tyr Pro Gly Leu Gln Cys Leu Lys Ile Glu Pro Val Asp  
 130 135 140  
 Asp Thr Ala Ser Leu Phe Phe Asn Gly Ile Gln Tyr Gln Gly Ser Leu  
 145 150 155 160  
 Tyr Val His Arg Lys Asp Asn His Cys Ile Met Val Ser Asn Glu Val  
 165 170 175  
 Thr Ile Glu Asp Tyr Leu Lys Ser Val Leu Ser Ile Lys Tyr Leu Glu  
 180 185 190  
 Glu Leu Asp Lys Glu Ala Leu Ser Ala Cys Ile Ile Leu Glu Arg Thr  
 195 200 205  
 Ala Leu Tyr Glu Lys Leu Leu Ala Arg Asn Pro Gln Asn Phe Trp His  
 210 215 220  
 Val Lys Ala Glu Glu Glu Gly Tyr Ala Gly Phe Gly Val Thr Lys Gln  
 225 230 235 240  
 Phe Tyr Gly Val Glu Glu Ala Ile Asp Trp Thr Ala Arg Leu Val Val  
 245 250 255  
 Asp Ser Pro Gln Gly Leu Ile Ile Asp Ala Gln Gly Leu Leu Gln Ser  
 260 265 270  
 Asn Val Asp Arg Leu Ala Ile Glu Gly Phe Asn Ala Arg Gln Ile Leu  
 275 280 285  
 Glu Lys Phe Tyr Lys Asp Val Asp Phe Val Val Ile Glu Ser Trp Asn  
 290 295 300  
 Glu Glu Leu Asp Gly Glu Ile Arg  
 305 310

<210> 392  
 <211> 346  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 392  
 Arg Lys Ser Asp Arg Glu Gly Ser Tyr Met Thr His Gln Val Ala Val  
 1 5 10 15  
 Leu His Gln Asp Lys Lys Phe Asp Val Ser Leu Arg Pro Lys Gly Leu  
 20 25 30  
 Glu Glu Phe Tyr Gly Gln His His Leu Lys Glu Arg Leu Asp Leu Phe  
 35 40 45  
 Leu Cys Ala Ala Leu Gln Arg Gly Glu Val Pro Gly His Cys Leu Phe  
 50 55 60  
 Phe Gly Pro Pro Gly Leu Gly Lys Thr Ser Leu Ala His Ile Val Ala  
 65 70 75 80  
 Tyr Thr Val Gly Lys Gly Leu Val Leu Ala Ser Gly Pro Gln Leu Ile  
 85 90 95  
 Lys Pro Ser Asp Leu Leu Gly Leu Leu Thr Ser Leu Gln Glu Gly Asp  
 100 105 110  
 Val Phe Phe Ile Asp Glu Ile His Arg Met Gly Lys Val Ala Glu Glu  
 115 120 125  
 Tyr Leu Tyr Ser Ala Met Glu Asp Phe Lys Val Asp Ile Thr Ile Asp  
 130 135 140  
 Ser Gly Pro Gly Ala Arg Ser Val Arg Val Asp Leu Ala Pro Phe Thr  
 145 150 155 160  
 Leu Val Gly Ala Thr Arg Ser Gly Met Leu Ser Glu Pro Leu Arg  
 165 170 175  
 Ala Arg Phe Ala Phe Ser Ala Arg Leu Ser Tyr Tyr Ser Asp Gln Asp  
 180 185 190  
 Leu Lys Glu Ile Leu Val Arg Ser Ser His Leu Leu Gly Ile Glu Ala  
 195 200 205

Asp	Ser	Ser	Ala	Leu	Leu	Glu	Ile	Ala	Lys	Arg	Ser	Arg	Gly	Thr	Pro
210						215					220				
Arg	Leu	Ala	Asn	His	Leu	Leu	Arg	Trp	Val	Arg	Asp	Phe	Ala	Gln	Ile
225					230					235					240
Arg	Glu	Gly	Asn	Cys	Ile	Asn	Gly	Asp	Val	Ala	Glu	Lys	Ala	Leu	Ala
			245						250					255	
Met	Leu	Leu	Ile	Asp	Asp	Trp	Gly	Leu	Asn	Glu	Ile	Asp	Ile	Lys	Leu
			260					265					270		
Leu	Thr	Thr	Ile	Ile	Asp	Tyr	Tyr	Gln	Gly	Gly	Pro	Val	Gly	Ile	Lys
	275					280						285			
Thr	Leu	Ser	Val	Ala	Val	Gly	Glu	Asp	Ile	Lys	Thr	Leu	Glu	Asp	Val
	290					295					300				
Tyr	Glu	Pro	Phe	Leu	Ile	Leu	Lys	Gly	Phe	Ile	Lys	Lys	Thr	Pro	Arg
305					310					315					320
Gly	Arg	Met	Val	Thr	Gln	Leu	Ala	Tyr	Asp	His	Leu	Lys	Arg	His	Ala
			325						330					335	
Lys	Asn	Leu	Leu	Ser	Leu	Gly	Glu	Gly	Gln						
			340					345							

<210> 393  
 <211> 64  
 <212> PRT  
 <213> Chlamydia pneumoniae

Lys	Asp	Gln	Leu	Tyr	Lys	Gln	Glu	Lys	Pro	Ile	Pro	Lys	Ala	Thr	Ile
1				5					10					15	
Leu	Ser	Arg	Asn	Leu	Glu	Val	Met	Leu	Asp	Asn	Pro	Lys	Gly	Lys	Arg
			20					25					30		
Gln	Thr	Leu	Phe	Leu	Gly	Arg	Thr	Ser	Gly	Arg	Ser	Ala	Leu	Tyr	Ser
	35					40						45			
Tyr	Ser	Arg	Arg	Ile	Leu	Val	Leu	Leu	Asn	Ala	Phe	Met	Arg	Gly	Pro
	50					55						60			

<210> 394  
 <211> 190  
 <212> PRT  
 <213> Chlamydia pneumoniae

Met	Ser	Ile	Lys	Glu	Asp	Lys	Trp	Ile	Arg	Glu	Met	Ala	Leu	Asn	Ala
1				5					10					15	
Asp	Met	Ile	His	Pro	Phe	Val	Asn	Gly	Gln	Val	Asn	Val	Asn	Glu	Glu
			20					25					30		
Thr	Gly	Glu	Lys	Leu	Ile	Ser	Tyr	Gly	Leu	Ser	Ser	Tyr	Gly	Tyr	Asp
	35					40						45			
Leu	Arg	Leu	Ser	Arg	Glu	Phe	Lys	Val	Phe	Thr	Asn	Val	Tyr	Asn	Ser
	50					55					60				
Val	Val	Asp	Pro	Lys	Cys	Phe	Thr	Glu	Asp	Ile	Phe	Ile	Ser	Ile	Thr
65					70					75				80	
Asp	Asp	Val	Cys	Ile	Val	Pro	Pro	Asn	Ser	Phe	Ala	Leu	Ala	Arg	Ser
			85					90						95	
Val	Glu	Tyr	Phe	Arg	Ile	Pro	Arg	Asn	Val	Leu	Thr	Met	Cys	Ile	Gly
			100					105					110		
Lys	Ser	Thr	Tyr	Ala	Arg	Cys	Gly	Ile	Ile	Val	Asn	Val	Thr	Pro	Phe
		115					120					125			
Glu	Pro	Glu	Trp	Glu	Gly	His	Val	Thr	Ile	Glu	Ile	Ser	Asn	Thr	Thr
	130					135					140				
Pro	Leu	Pro	Ala	Lys	Ile	Tyr	Ala	Asn	Glu	Gly	Ile	Ala	Gln	Val	Leu
145					150					155					160

Phe	Phe	Glu	Ser	Ser	Thr	Thr	Cys	Glu	Val	Ser	Tyr	Ala	Asp	Arg	Lys
				165					170					175	
Gly	Lys	Tyr	Gln	Lys	Gln	Gln	Gly	Ile	Thr	Val	Pro	Cys	Val		
			180					185					190		

<210> 395  
 <211> 165  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 395

Lys	Phe	Leu	Thr	Leu	Arg	His	Cys	Gln	Arg	Lys	Phe	Thr	Leu	Met	Lys
1				5					10					15	
Gly	Leu	Pro	Arg	Ser	Tyr	Ser	Leu	Ser	Leu	Val	Arg	Pro	Ala	Arg	Phe
			20					25					30		
Leu	Met	Gln	Thr	Glu	Lys	Glu	Ser	Ile	Lys	Ser	Asn	Lys	Ala	Ser	Pro
		35					40					45			
Tyr	Leu	Val	Ser	Lys	Val	Ser	Val	Arg	Lys	Lys	Asn	Trp	Gly	Phe	Arg
	50					55					60				
Leu	Leu	Glu	Glu	Val	Met	Ile	Lys	Ser	Trp	Trp	Val	Ile	Phe	Ser	Ile
65					70					75					80
Leu	Ile	Gly	Gly	Phe	Val	Tyr	Asp	Arg	Ala	Ile	Gln	Glu	Leu	Arg	Thr
				85					90					95	
Glu	Glu	Leu	Arg	Leu	Gln	Ser	Lys	Val	Ser	Ser	Leu	Cys	Gln	Asp	Ile
			100					105					110		
Leu	Ser	Ala	Gln	Glu	Lys	Gln	Arg	Gln	Leu	Gln	Leu	His	Leu	Gln	His
		115					120					125			
Trp	Gln	Asp	Ser	Ala	Ala	Ile	Glu	Ala	Ala	Leu	Ile	Gln	Arg	Leu	Gly
	130					135						140			
Leu	Ile	Pro	Lys	Gly	Tyr	Lys	Lys	Leu	Cys	Val	Ser	Pro	Lys	Gln	Gln
145					150					155					160
Ser	Glu	Asn	Lys	Asp											
				165											

<210> 396  
 <211> 414  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 396

Lys	Glu	Thr	Met	Ile	Pro	Thr	Met	Leu	Met	Phe	Phe	Ile	Ile	Cys	Phe
1				5					10					15	
Thr	Leu	Cys	Ser	Gly	Phe	Ile	Ser	Leu	Ser	Gln	Ile	Ala	Leu	Phe	Ser
			20					25					30		
Leu	Pro	Thr	Ser	Leu	Ile	Ser	His	Tyr	Lys	Arg	Ser	Lys	Ser	Lys	Lys
		35					40					45			
Gln	Gln	Arg	Val	Ala	Thr	Leu	Leu	Leu	His	Pro	His	His	Leu	Leu	Ile
	50					55					60				
Thr	Leu	Ile	Phe	Cys	Asp	Ile	Gly	Leu	Asn	Ile	Ala	Ile	Gln	Asn	Cys
65					70					75					80
Phe	Ala	Ile	Leu	Phe	Gly	Asp	Ala	Ala	Ser	Trp	Trp	Phe	Thr	Val	Gly
				85					90					95	
Leu	Pro	Leu	Ala	Ile	Thr	Leu	Ile	Leu	Gly	Glu	Ile	Leu	Pro	Lys	Ala
			100					105					110		
Val	Ala	Leu	Pro	Phe	Asn	Thr	Gln	Ile	Ala	Ser	Ser	Val	Ala	Pro	Leu
			115				120					125			
Ile	Leu	Cys	Val	Thr	Lys	Ile	Phe	Lys	Pro	Leu	Leu	His	Trp	Gly	Ile
	130					135					140				
Val	Gly	Ile	Asn	Tyr	Val	Val	Gln	Trp	Ile	Leu	Ser	Lys	Gln	Gln	Ile
145					150					155					160

Asp	Ile	Ile	Gln	Pro	Gln	Glu	Leu	Lys	Glu	Val	Leu	Gln	Ser	Cys	Lys	165	170	175
Asp	Phe	Gly	Val	Val	Asn	Gln	Glu	Glu	Ser	Arg	Leu	Leu	Tyr	Gly	Tyr	180	185	190
Leu	Ser	Leu	Ser	Asp	Cys	Ser	Val	Lys	Glu	Arg	Met	Gln	Pro	Arg	Gln	195	200	205
Asp	Ile	Leu	Phe	Tyr	Asp	Ile	Gln	Thr	Pro	Leu	Glu	Asn	Leu	Tyr	Leu	210	215	220
Leu	Phe	Ser	Lys	Gln	His	Cys	Ser	Arg	Val	Pro	Ile	Cys	Asn	Asp	Asn	225	230	235
Leu	Gln	Asn	Leu	Leu	Gly	Ile	Cys	Thr	Ala	Arg	Ser	Leu	Leu	Leu	His	245	250	255
Asp	Lys	Pro	Leu	Gln	Ser	Ser	Asp	Asp	Leu	Leu	Pro	Leu	Leu	Lys	Lys	260	265	270
Pro	Tyr	Tyr	Met	Pro	Glu	Thr	Ile	Ser	Ala	Lys	Met	Ala	Leu	Cys	Gln	275	280	285
Met	Ala	Ala	Glu	Asp	Glu	Thr	Leu	Gly	Met	Ile	Ile	Asp	Glu	Tyr	Gly	290	295	300
Ser	Ile	Glu	Gly	Leu	Ile	Thr	Gln	Glu	Asp	Leu	Phe	Glu	Ile	Val	Ala	305	310	315
Gly	Glu	Ile	Val	Asp	Gln	Arg	Asp	Asn	Lys	Ile	Leu	Tyr	Thr	Thr	Ser	325	330	335
Gly	Ala	Asp	Val	Ile	Ile	Ala	Ser	Gly	Thr	Leu	Glu	Leu	Arg	Glu	Phe	340	345	350
Ser	Glu	Ile	Phe	Asp	Ile	Asn	Leu	Pro	Thr	Asn	Asn	Asn	Ile	Ala	Thr	355	360	365
Ile	Gly	Gly	Trp	Leu	Ile	Glu	Gln	Ile	Gly	Thr	Ile	Pro	Thr	Thr	Gly	370	375	380
Met	Lys	Leu	Ser	Trp	Asn	Asn	Leu	Leu	Phe	Gln	Val	Leu	Asp	Ala	Ala	385	390	395
Pro	Asn	Arg	Ile	Arg	Arg	Val	Tyr	Ile	Arg	Lys	Leu	Tyr	Asp			405	410	

<210> 397

<211> 407

<212> PRT

<213> Chlamydia pneumoniae

<400> 397

Gly	Asn	Cys	Met	Thr	Asn	Ser	Ala	Leu	Phe	Trp	Ile	Gly	Val	Asn	Ile	1	5	10	15
Ile	Cys	Ile	Val	Leu	Gln	Gly	Phe	Tyr	Ser	Met	Met	Glu	Met	Ala	Cys	20	25	30	
Val	Ser	Phe	Asn	Arg	Val	Arg	Leu	Gln	Tyr	Tyr	Leu	Thr	Lys	Asp	His	35	40	45	
Lys	Lys	Ala	Arg	Tyr	Ile	Asn	Phe	Leu	Ile	Arg	Arg	Pro	Tyr	Arg	Leu	50	55	60	
Phe	Gly	Thr	Val	Met	Leu	Gly	Val	Asn	Ile	Ala	Leu	Gln	Val	Gly	Ser	65	70	75	80
Glu	Ser	Ser	Arg	Asn	Cys	Tyr	Arg	Ala	Leu	Gly	Ile	Thr	Pro	Asp	Tyr	85	90	95	
Ala	Pro	Phe	Thr	Gln	Ile	Phe	Ile	Val	Val	Ile	Phe	Ala	Glu	Leu	Leu	100	105	110	
Pro	Leu	Thr	Ile	Ser	Arg	Lys	Ile	Pro	Glu	Lys	Leu	Ala	Leu	Trp	Gly	115	120	125	
Ala	Pro	Ile	Leu	Tyr	Tyr	Ser	His	Tyr	Ile	Phe	Tyr	Pro	Leu	Ile	Gln	130	135	140	
Leu	Ile	Gly	Ser	Leu	Thr	Glu	Gly	Leu	Tyr	Tyr	Leu	Leu	Asn	Ile	Arg	145	150	155	160
Lys	Glu	Lys	Leu	Asn	Ser	Thr	Leu	Ser	Arg	Asp	Glu	Phe	Gln	Lys	Ala	165	170	175	

Leu Glu Thr His His Glu Glu Gln Asp Phe Asn Thr Ile Ala Thr Asn  
 180 185 190  
 Ile Phe Ser Leu Ser Ala Thr Cys Ala Asp Gln Val Cys Gln Pro Leu  
 195 200 205  
 Glu Gln Val Thr Met Leu Pro Ser Ser Ala Asn Val Lys Asp Phe Cys  
 210 215 220  
 Arg Thr Ile Lys Asn Thr Asp Ile Asn Phe Ile Pro Val Tyr His Lys  
 225 230 235 240  
 Ala Arg Lys Asn Val Ile Gly Ile Ala His Pro Lys Asp Phe Val Asn  
 245 250 255  
 Lys Ala Leu Asp Glu Pro Leu Ile Asn Asn Leu His Ser Pro Trp Phe  
 260 265 270  
 Ile Thr Ala Lys Ser Lys Leu Ile Arg Ile Leu Lys Glu Phe Arg Asp  
 275 280 285  
 Asn Arg Ser Ser Val Ala Val Val Leu Asn Ala Ser Gly Glu Pro Ile  
 290 295 300  
 Gly Ile Leu Ser Leu Asn Ala Ile Phe Lys Ile Leu Phe Asn Thr Thr  
 305 310 315 320  
 Asn Ile Ala His Leu Lys Pro Lys Thr Ile Ser Val Ile Glu Arg Thr  
 325 330 335  
 Phe Pro Gly Asn Ser Arg Ile Lys Asp Leu Gln Lys Glu Leu Asp Ile  
 340 345 350  
 Gln Phe Pro Gln Tyr Pro Val Glu Thr Leu Ala Gln Leu Val Leu Gln  
 355 360 365  
 Leu Leu Asp Ser Pro Ala Glu Val Gly Thr Ser Val Ile Ile Asn Asn  
 370 375 380  
 Leu Leu Leu Glu Val Lys Glu Met Ser Leu Ser Gly Ile Lys Thr Val  
 385 390 395 400  
 Ser Ile Lys Asn Leu Leu Ser  
 405

<210> 398

<211> 373

<212> PRT

<213> Chlamydia pneumoniae

<400> 398

Tyr Ser Met Ile Tyr Leu Asp Asn Asn Ala Met Thr Pro Pro Glu Arg  
 1 5 10 15  
 Gly Leu Leu Glu Phe Leu Gln Lys Thr Phe Leu Ile Glu Gly Thr Tyr  
 20 25 30  
 Ala Asn Pro Ser Ser Val His Gln Leu Gly Lys Lys Ser Arg Gln Leu  
 35 40 45  
 Val Leu Glu Ala Ser His Trp Met Gln Lys Val Leu Ser Phe Gln Gly  
 50 55 60  
 Arg Val Leu Tyr Thr Ser Gly Ala Thr Glu Ser Leu Asn Leu Ala Ile  
 65 70 75 80  
 Ala Ser Leu Pro Lys Asp Ser His Val Ile Thr Ser Gly Ser Glu His  
 85 90 95  
 Pro Ala Ile Leu Glu Pro Leu Lys His Ser Ser Leu Ser Val Ser Tyr  
 100 105 110  
 Leu Asn Pro Glu Glu Gly Arg Cys Val Leu Thr Ile Glu Gln Ile Glu  
 115 120 125  
 Arg Ala Val Thr Pro Lys Thr Ser Ala Ile Ile Leu Gly Trp Val Asn  
 130 135 140  
 Ser Glu Thr Gly Ala Lys Ala Asp Ile Ala Ala Ile Ala His Phe Ala  
 145 150 155 160  
 Gln Glu Arg Gln Leu Gln Phe Ile Val Asp Ala Thr Ala Asn Val Gly  
 165 170 175  
 Lys Glu Arg Ile Val Leu Pro Ser Gly Val Thr Met Ala Ala Phe Ser  
 180 185 190

Gly	His	Lys	Phe	His	Ala	Leu	Ser	Gly	Ile	Gly	Ala	Leu	Leu	Val	Ser
	195						200					205			
Pro	Gly	Val	Lys	Leu	His	Pro	Gln	Leu	Trp	Gly	Gly	Gly	Gln	Gln	Gly
	210					215					220				
Gly	Leu	Arg	Ala	Gly	Thr	Glu	Asn	Leu	Trp	Gly	Ile	Ala	Ser	Leu	Leu
225					230					235					240
Tyr	Ile	Phe	Lys	Tyr	Leu	Asp	Leu	His	Gln	Glu	Arg	Ile	Ser	Gln	Glu
				245					250					255	
Ile	Leu	Thr	His	Arg	Asn	Gly	Phe	Glu	Lys	Ala	Ile	Lys	Ala	Arg	Ile
			260					265						270	
Pro	Asp	Val	His	Ile	His	Cys	Ala	Asp	Gln	Pro	Arg	Ala	Asn	Asn	Val
		275					280					285			
Ser	Ala	Ile	Ala	Phe	Pro	Pro	Leu	Glu	Gly	Glu	Val	Leu	Gln	Ile	Ala
	290					295					300				
Leu	Asp	Ile	Glu	Gly	Val	Ala	Cys	Gly	Tyr	Gly	Ser	Ala	Cys	Ser	Ser
305					310					315					320
Gly	Ala	Thr	Ala	Pro	Phe	Lys	Ser	Leu	Val	Ser	Met	Gly	Val	Asp	Glu
				325					330					335	
Glu	Leu	Thr	Leu	Ala	Thr	Leu	Arg	Phe	Ser	Phe	Ser	His	Leu	Leu	Leu
			340					345					350		
Gln	Glu	Asp	Val	Glu	Arg	Ala	Val	Gly	Ile	Ile	Glu	Lys	Val	Val	Glu
		355					360					365			
Arg	Leu	Lys	Asn	Ser											
	370														

<210> 399

<211> 248

<212> PRT

<213> Chlamydia pneumoniae

<400> 399

Glu	His	Phe	Val	Asp	Phe	Asp	Tyr	Phe	Gly	Leu	Ser	Asp	Ile	Gly	Arg
1				5					10					15	
Val	Arg	Ala	Arg	Asn	Glu	Asp	Phe	Trp	Gln	Val	Asn	Leu	Met	Ser	Gln
			20					25					30		
Val	Val	Ala	Ile	Ala	Asp	Gly	Val	Gly	Gly	Arg	Leu	Gly	Gly	Asp	Ile
		35					40					45			
Ala	Ser	Gln	Glu	Ala	Val	Thr	Ser	Leu	Met	Glu	Leu	Ile	Asp	Glu	Gln
	50					55					60				
Gln	Ser	Lys	Leu	Met	Gly	Tyr	Gly	Asp	Asp	Gln	Tyr	Lys	Glu	Thr	Leu
65					70					75					80
Lys	Lys	Ile	Leu	Leu	Glu	Val	Asn	Gly	Val	Val	Tyr	Glu	His	Gly	Gln
				85					90					95	
Met	Glu	Glu	His	Leu	Gln	Gly	Met	Gly	Thr	Thr	Leu	Ser	Phe	Ile	Gln
			100					105					110		
Phe	Arg	Lys	Asp	Arg	Ala	Trp	Leu	Phe	His	Val	Gly	Asp	Ser	Arg	Ile
		115					120					125			
Tyr	Arg	Ile	Arg	Glu	Gly	Glu	Leu	Arg	Arg	Leu	Thr	Glu	Asp	His	Ser
	130					135					140				
Leu	Glu	Asn	Gln	Leu	Lys	Asn	Arg	Tyr	Gly	Leu	Pro	Lys	Gln	Ser	Asp
145					150					155					160
Lys	Val	Tyr	Ser	Tyr	Arg	His	Ile	Leu	Thr	Asn	Val	Leu	Gly	Ser	Arg
				165					170					175	
Pro	Tyr	Val	Met	Pro	Asp	Ile	Arg	Asn	Leu	Pro	Cys	Glu	Lys	Glu	Asp
			180					185					190		
Leu	Tyr	Cys	Leu	Cys	Ser	Asp	Gly	Leu	Thr	Asn	Met	Val	Pro	Asp	Ile
		195					200					205			
Asp	Ile	Arg	Asp	Ile	Leu	Asn	Gln	Pro	Ala	Thr	Leu	Glu	Glu	Arg	Gly
	210					215					220				
Asn	Ala	Leu	Ile	Ser	Leu	Ala	Asn	Thr	Arg	Gly	Gly	Asp	Asp	Asn	Ala
225					230					235					240

Thr Val Val Leu Val Arg Ile Gln  
245

<210> 400  
<211> 61  
<212> PRT  
<213> Chlamydia pneumoniae

<400> 400  
Ile Glu Glu Leu Pro Met Gln Ile Glu Asn Ser Ser Ile Leu Phe Ala  
1 5 10 15  
Glu Val Val Met Lys Trp Phe Ile Phe Ser Val Ile Ser Ala Pro Val  
20 25 30  
Val Phe Leu Pro Gly Cys Thr Leu Ile Pro Lys Glu Lys Val Thr Lys  
35 40 45  
Val Pro Ser Gln Leu Trp Ser Glu Ser Leu Ser Gln Pro  
50 55 60

<210> 401  
<211> 255  
<212> PRT  
<213> Chlamydia pneumoniae

<400> 401  
Tyr Lys Leu Met Arg Val Leu Asn Gly Lys Ser Leu Asn Cys Glu Ser  
1 5 10 15  
Ile Asp Leu Lys Ser Lys Asn Phe Pro Arg Ala Arg Ile Phe Cys Lys  
20 25 30  
Ile Ser Asn Leu Arg Thr Val Thr Met Arg Lys Met Leu Val Leu Leu  
35 40 45  
Ala Ser Leu Gly Leu Leu Ser Pro Thr Leu Ser Ser Cys Thr His Leu  
50 55 60  
Gly Ser Ser Gly Ser Tyr His Pro Lys Leu Tyr Thr Ser Gly Ser Lys  
65 70 75 80  
Thr Lys Gly Val Ile Ala Met Leu Pro Val Phe His Arg Pro Gly Lys  
85 90 95  
Ser Leu Glu Pro Leu Pro Trp Asn Leu Gln Gly Glu Phe Thr Glu Glu  
100 105 110  
Ile Ser Lys Arg Phe Tyr Ala Ser Glu Lys Val Phe Leu Ile Lys His  
115 120 125  
Asn Ala Ser Pro Gln Thr Val Ser Gln Phe Tyr Ala Pro Ile Ala Asn  
130 135 140  
Arg Leu Pro Glu Thr Ile Ile Glu Gln Phe Leu Pro Ala Glu Phe Ile  
145 150 155 160  
Val Ala Thr Glu Leu Leu Glu Gln Lys Thr Gly Lys Glu Ala Gly Val  
165 170 175  
Asp Ser Val Thr Ala Ser Val Arg Val Arg Val Phe Asp Ile Arg His  
180 185 190  
His Lys Ile Ala Leu Ile Tyr Gln Glu Ile Ile Glu Cys Ser Gln Pro  
195 200 205  
Leu Thr Thr Leu Val Asn Asp Tyr His Arg Tyr Gly Trp Asn Ser Lys  
210 215 220  
His Phe Asp Ser Thr Pro Met Gly Leu Met His Ser Arg Leu Phe Arg  
225 230 235 240  
Glu Val Val Ala Arg Val Glu Gly Tyr Val Cys Ala Asn Tyr Ser  
245 250 255

<210> 402  
<211> 260  
<212> PRT  
<213> Chlamydia pneumoniae



<400> 402

Ser	Lys	Glu	Met	Ser	Lys	Phe	Ile	Leu	Leu	Leu	Ser	Leu	Gly	Val	Ala
1				5				10						15	
Ala	Leu	Ala	Ser	Lys	Asn	Phe	Phe	Ile	Trp	Pro	Ala	Pro	Ser	Gly	Lys
			20					25					30		
Thr	Pro	Leu	Lys	Leu	Arg	Gln	Val	Leu	Phe	Gly	Gly	Ala	Leu	Leu	Val
	35						40					45			
Phe	Ser	Ser	Leu	Val	Ala	Leu	Ser	Val	Ser	Ser	Gln	Thr	Ala	Glu	Leu
	50					55					60				
Leu	Ser	Thr	Met	Thr	Gly	Ile	Ser	Leu	Ala	Phe	Ala	Phe	Leu	Phe	Tyr
65					70					75				80	
Leu	Leu	Phe	Leu	Pro	Lys	Asp	Ile	Thr	Arg	Ala	Ile	Leu	Phe	Ser	Gly
				85					90					95	
Glu	Arg	Pro	Val	Lys	Thr	Ser	Trp	Arg	Ala	Leu	Gly	Ser	Ala	Ile	Arg
			100					105					110		
Met	Trp	Ile	Ile	Ile	Ile	Pro	Val	Thr	Gln	Leu	Ile	Gly	Ile	Met	Met
	115					120						125			
Ser	Lys	Phe	Leu	Thr	Leu	Val	Leu	Pro	Thr	Gln	Glu	Ile	His	Thr	Gln
	130					135					140				
Glu	Val	Thr	Gln	Glu	Val	Gln	Asn	Ser	Leu	Pro	Ile	Thr	Gly	His	Tyr
145					150					155				160	
Ile	Ser	Met	Ile	Leu	Asn	Leu	Gly	Val	Leu	Thr	Pro	Phe	Gly	Glu	Glu
				165					170					175	
Val	Phe	Phe	Arg	Gly	Ile	Leu	Gln	Thr	Phe	Leu	Lys	Asn	Lys	Met	Thr
			180					185					190		
Arg	Ile	Ala	Ala	Val	Leu	Cys	Ser	Ser	Ile	Ile	Phe	Ser	Phe	Ile	His
	195						200					205			
Ile	Glu	His	Ser	Leu	Gly	Ser	Trp	Val	Phe	Val	Pro	Val	Leu	Phe	Val
	210					215					220				
Phe	Ser	Leu	Ser	Ala	Gly	Phe	Leu	Tyr	Glu	Lys	Asp	Arg	His	Ile	Leu
225					230					235				240	
Ser	Pro	Ile	Ala	Leu	His	Gly	Leu	Phe	Asn	Leu	Thr	Ser	Leu	Leu	Phe
				245					250					255	
Leu	Gly	Ile	Lys												
			260												

<210> 403  
 <211> 130  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 403

Met	Arg	Asp	His	Ala	Phe	Ser	Lys	Leu	Ile	Gly	Thr	Val	Arg	Ala	Met
1				5				10						15	
Val	Val	Glu	Gly	Arg	Cys	Pro	Trp	Ser	Leu	Gln	Gln	Ser	Leu	Val	Ser
			20					25					30		
Met	Val	Glu	His	Ile	Leu	Gly	Glu	Cys	Gln	Glu	Phe	His	Glu	Ala	Val
	35					40					45				
Leu	Gln	Gly	Lys	Thr	Val	Gln	Glu	Val	Gly	Ser	Glu	Ala	Gly	Asp	Val
	50					55					60				
Leu	Thr	Leu	Val	Leu	Ile	Leu	Cys	Phe	Leu	Leu	Glu	Arg	Glu	Gly	Val
65					70					75				80	
Leu	Ala	Ser	Glu	Asp	Val	Ala	Asn	Glu	Ala	Met	Glu	Lys	Leu	Arg	Arg
			85					90					95		
Arg	Ala	Pro	Tyr	Ile	Phe	Ala	Glu	Asp	Tyr	Lys	Pro	Val	Ser	Ile	Glu
		100						105					110		
Glu	Ala	Asp	Arg	Leu	Trp	Glu	Leu	Ala	Lys	His	Arg	Glu	Lys	Asn	Glu
		115					120					125			
Ser	Thr														
	130														

<210> 404  
 <211> 375  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 404  
 Asn Phe Lys Arg Phe Cys Met Thr Lys Ile Ala Phe Ser Glu Lys Ala  
 1 5 10 15  
 Lys Asn Phe Pro Val Glu Ala Leu Lys Lys Trp Phe Glu Lys Asn Lys  
 20 25 30  
 Arg Ser Leu Pro Trp Arg Asp Asn Pro Thr Pro Tyr Ser Val Trp Val  
 35 40 45  
 Ser Glu Val Met Leu Gln Gln Thr Arg Ala Glu Val Val Ile Asp Tyr  
 50 55 60  
 Phe Asn Gln Trp Met Glu Arg Phe Pro Thr Ile Glu Ser Leu Ala Ala  
 65 70 75 80  
 Ala Lys Glu Glu Asp Val Ile Lys Leu Trp Glu Gly Leu Gly Tyr Tyr  
 85 90 95  
 Ser Arg Ala Arg His Leu Leu Glu Gly Ala Arg Met Val Met Glu Glu  
 100 105 110  
 Phe His Gly Lys Ile Pro Asp Asp Ala Ile Ser Leu Ala Gln Ile Arg  
 115 120 125  
 Gly Val Gly Pro Tyr Thr Val His Ala Ile Leu Ala Phe Ala Phe Lys  
 130 135 140  
 Arg Arg Ala Ala Ala Val Asp Gly Asn Val Leu Arg Val Leu Ser Arg  
 145 150 155 160  
 Ile Phe Leu Ile Glu Thr Ser Ile Asp Leu Glu Ser Thr Arg Thr Trp  
 165 170 175  
 Val Ser Arg Ile Ala Gln Ala Leu Leu Pro His Lys Ser Pro Glu Val  
 180 185 190  
 Ile Ala Glu Ala Leu Ile Glu Leu Gly Ala Cys Ile Cys Lys Lys Val  
 195 200 205  
 Pro Gln Cys His Arg Cys Pro Val Arg Gln Ala Cys Gly Ala Trp Arg  
 210 215 220  
 Glu Asn Lys Gln Phe Val Leu Pro Val Arg His Ala Arg Lys Lys Val  
 225 230 235 240  
 Ile Phe Leu His Arg Leu Val Ala Ile Val Leu Tyr Asp Gly Ser Leu  
 245 250 255  
 Val Val Glu Lys Arg Arg Pro Lys Glu Met Met Ala Gly Leu Tyr Glu  
 260 265 270  
 Phe Pro Tyr Ile Glu Val Glu Pro Glu Glu Gly Leu Gln Asp Ile Glu  
 275 280 285  
 Gly Phe Thr Lys Lys Met Glu Leu Ser Leu Glu Ser Pro Leu Glu Phe  
 290 295 300  
 Leu Gly Asn Leu Lys Glu Gln Arg His Ala Phe Thr Asn His Lys Val  
 305 310 315 320  
 His Leu Cys Pro Ile Ile Phe Lys Ala Thr Ser Leu Pro Gln Phe Gly  
 325 330 335  
 Glu Leu His Leu Leu Ser Asp Ile Asp His Leu Ala Phe Ser Ser Gly  
 340 345 350  
 His Lys Lys Ile Lys Asp Ala Leu Leu Ile Tyr Leu Gly Asp Val Arg  
 355 360 365  
 Ser Arg Glu Ser Ile Gly Val  
 370 375

<210> 405  
 <211> 234  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 405

Asn	Phe	Met	Gln	Leu	Ser	Asn	Asp	Lys	Arg	Ala	Ala	Leu	Gln	Tyr	Phe
1				5					10					15	
Met	Glu	Asn	Phe	Ser	Trp	Leu	Ala	Thr	Gln	Val	Ser	Arg	Leu	Ser	Ser
			20					25					30		
Phe	Leu	Arg	Ser	Gln	Leu	Pro	Asn	His	Ser	Lys	Gln	Glu	Ile	Leu	Ala
	35						40				45				
Ser	Ile	Arg	Gln	His	Arg	Cys	Arg	Val	Asn	Gly	Phe	Ile	Glu	Arg	Phe
	50					55					60				
Glu	Ser	Tyr	Lys	Val	Gln	Pro	Gly	Asp	Arg	Val	Ser	Leu	Ser	Leu	Ile
65					70					75				80	
Pro	Ser	Thr	Lys	Gln	Gln	Pro	Ser	Ile	Leu	Trp	Glu	Asp	Asp	Tyr	Ser
			85					90						95	
Ile	Ile	Tyr	Glu	Lys	Pro	Pro	His	Leu	Thr	Thr	Glu	Gln	Met	Ala	His
			100					105					110		
Met	Thr	Arg	Phe	Phe	Thr	Val	His	Arg	Leu	Asp	Lys	Gly	Thr	Ser	Gly
		115					120					125			
Cys	Leu	Leu	Met	Gly	Lys	Ser	Lys	Gln	Ala	Ala	Thr	Glu	Leu	Met	Lys
	130					135					140				
Leu	Phe	Lys	Gln	Arg	Lys	Ile	His	Lys	Gln	Tyr	Ile	Ala	Phe	Val	Phe
145					150					155					160
Gly	His	Pro	Lys	Lys	Lys	Phe	Gly	Thr	Val	Lys	Ser	Tyr	Thr	Ala	Pro
			165					170						175	
Val	Tyr	Arg	Arg	Cys	Gly	Ala	Val	Ile	Phe	Gly	Ala	Ala	Gly	Pro	Ser
			180					185					190		
Gln	Gly	Glu	Pro	Ile	Lys	Ser	Ala	Tyr	Lys	Trp	Asp	Cys	Trp	Val	Ile
	195						200					205			
Leu	Leu	Ser	Glu	Met	Ser	Thr	Thr	Asp	Leu	Lys	Asn	Ser	Leu	Pro	Arg
	210					215					220				
Ser	Ser	Ala	Leu	Ser	Ser	Met	Leu	Thr	Pro						
225					230										

<210> 406  
 <211> 364  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 406

Glu	Leu	Glu	Ala	Leu	Glu	Gln	Lys	Tyr	Gly	Lys	Ala	Val	Leu	Leu	Ile
1				5					10					15	
Ala	Leu	Ser	Glu	Leu	Gly	Ile	Asp	Thr	Met	Ser	Leu	Leu	Ser	Gly	His
			20					25					30		
Arg	Leu	Glu	Gly	Phe	Pro	Pro	Ile	Ala	Glu	Val	Met	Ala	Ala	Cys	Asp
	35						40					45			
Arg	Cys	Ser	Met	Asp	Phe	Cys	Glu	Ile	Leu	Lys	Ser	Gln	Ser	Met	Asp
	50					55					60				
Leu	Trp	Ala	Asp	Ala	Ala	Ser	Cys	Val	Asp	Gly	Leu	Leu	Gln	Asp	Pro
65				70						75				80	
Phe	Trp	Ser	Thr	Ala	Ile	Ala	Ser	Gly	Ile	Ala	Lys	Ser	Ser	Leu	Gln
			85					90						95	
Glu	Thr	Glu	Phe	Glu	Cys	Glu	Ser	Lys	Val	Met	Val	Leu	Ser	Ser	Trp
			100					105					110		
Gly	Glu	Gln	Gly	Ala	Gln	Val	Cys	Ser	Pro	Phe	Asn	Leu	Glu	Arg	Ile
		115					120					125			
Cys	Met	Ser	Phe	Pro	Ser	Leu	Lys	Val	Phe	Ser	Leu	Lys	Lys	Asn	Gly
	130					135					140				
Cys	Glu	Asn	Met	Gly	Ile	Gln	Leu	Ser	Ala	Ser	Cys	Met	Asn	Leu	Leu
145					150					155					160
Met	Ser	Ile	Phe	Phe	Val	Ala	Thr	Asn	Gly	Gly	Ser	Thr	Pro	Ile	Trp
			165						170					175	

Ile	Thr	Lys	Glu	Asn	Leu	Met	Ala	Leu	Val	Ala	Leu	Val	Leu	Ser	His
			180					185					190		
Tyr	Gln	Cys	Tyr	Phe	Val	Pro	Ala	Thr	Gly	Asp	Pro	Gln	Arg	Gly	Asn
		195					200					205			
Ile	Leu	Gly	Asn	Pro	Glu	Val	Asn	Ala	Ile	Leu	Ala	Arg	Gly	Met	Gly
	210					215				220					
Met	Arg	Val	Asp	Leu	Glu	Arg	Lys	Arg	Gly	Gly	Glu	Ser	Ser	Ser	Ser
225					230					235					240
Arg	Tyr	Leu	Glu	Leu	Ala	Ala	Arg	Cys	Phe	Glu	Asn	Ser	Leu	Thr	Lys
				245					250					255	
Thr	Ser	Leu	Leu	Ser	Asp	Ala	Asn	Asn	Val	Gln	Glu	Arg	Asp	Lys	Cys
		260						265					270		
Leu	Leu	Gln	Met	Ser	Thr	Ser	Leu	Met	His	Thr	Ala	Gly	Leu	Asn	Leu
	275						280					285			
Gln	Arg	Pro	Pro	Val	Pro	Thr	Pro	Ser	Gly	Val	Thr	Ala	His	Pro	Gln
	290					295					300				
Pro	Gln	Pro	Asp	Pro	Val	Val	Thr	Ser	Gln	Pro	Ser	Leu	Leu	Gly	Ala
305					310					315					320
Arg	Glu	Arg	Ser	Pro	Val	Ser	Ser	Arg	Gly	Arg	Phe	Pro	Val	Val	Leu
				325					330					335	
Pro	Leu	Ser	Val	Ile	Ser	Pro	Arg	Ser	His	Pro	Gly	Arg	Val	Glu	Arg
		340					345						350		
Arg	Asp	Leu	Glu	Asp	Glu	Glu	Glu	Glu	Val	Met	Phe				
		355					360								

<210> 407

<211> 283

<212> PRT

<213> Chlamydia pneumoniae

<400> 407

Asn	Ile	Gln	Thr	Ser	His	Ser	Arg	Val	Leu	Leu	Lys	Lys	Phe	Ser	Lys
1				5					10					15	
Glu	Phe	Thr	Ile	Arg	Thr	Tyr	Arg	Ser	Leu	Gly	Phe	Thr	Asp	Tyr	Leu
			20					25					30		
Gly	Gly	Cys	Leu	Thr	Asn	Pro	Leu	Gly	Lys	Phe	Pro	Ser	Pro	Gln	Asn
		35					40					45			
Pro	Gln	Val	Val	Thr	Ile	Ala	Pro	Ser	Ser	Thr	Thr	Pro	Gln	Ala	Val
	50					55					60				
Ser	Ser	Ala	Val	Gln	Gly	Phe	Leu	Gln	Thr	Gly	Gly	Ala	Ala	Ser	Ser
65					70					75					80
Thr	Ala	Thr	Thr	Thr	Thr	Ala	Ser	Gly	Ala	Ser	Ala	Leu	Gly	Leu	Ser
				85					90					95	
Pro	Asp	Gln	Val	Gln	Ala	Leu	Leu	Thr	Asn	Leu	Leu	Asn	Val	Gly	Gln
			100					105					110		
Pro	Ser	Val	Gly	Gln	Pro	Ser	Thr	Ser	Ala	Gly	Thr	Ser	Gly	Ala	Ser
		115					120					125			
Ser	Ser	Ser	Ala	Ser	Met	Gln	Gln	Gln	Leu	Leu	Gln	Leu	Ile	Leu	Asp
		130				135					140				
Lys	Thr	Thr	Gly	Ser	Gly	Gly	Ser	Ser	Val	Ser	Ser	Glu	Gln	Leu	Gln
145					150					155					160
Gln	Leu	Leu	Ser	Leu	Val	Ser	Gln	Met	Thr	Thr	Ser	Gln	Gly	Gly	Ser
				165					170					175	
Gly	Gly	Thr	Gln	Ala	Gly	Gln	Ala	Ala	Ser	Val	Leu	Leu	Asn	Leu	Leu
			180					185					190		
Ser	Ala	Thr	Gly	Ser	Ala	Ala	Ala	Asn	Pro	Leu	Gly	Thr	Ala	Ala	Ser
		195					200					205			
Leu	Ala	Gln	Ile	Ile	Tyr	Ala	Ala	Val	Thr	Ser	Pro	Gly	Ala	Lys	Lys
	210					215					220				
Thr	Ser	Glu	Phe	Cys	Tyr	Asn	Tyr	Cys	Gly	Glu	Thr	Cys	Gln	Gly	Asn
225					230					235					240



Thr	Ile	Thr	His	Gln	Ser	His	His	Leu	Asp	Lys	Lys	Val	Tyr	Glu	Arg
			20					25					30		
Leu	Tyr	Ala	Leu	His	Gln	Ala	Gly	Trp	Lys	Leu	Phe	Phe	Leu	Thr	Gly
		35					40					45			
Arg	Tyr	Tyr	Lys	Tyr	Ala	Ala	Arg	Leu	Phe	Ser	Asp	Phe	Asp	Ala	Pro
	50				55						60				
Tyr	Leu	Leu	Gly	Cys	Gln	Asn	Gly	Ala	Ser	Val	Trp	Ser	Ser	Thr	Ser
65					70					75					80
Ser	Asn	Leu	Leu	Tyr	Ser	Lys	Ser	Leu	Pro	Ser	Asp	Leu	Leu	Cys	Ile
				85					90					95	
Leu	Gln	Asp	Cys	Met	Glu	Gly	Ala	Thr	Ala	Leu	Phe	Ser	Val	Glu	Ser
			100					105					110		
Gly	Ala	Pro	Tyr	Gly	Asp	His	Tyr	Tyr	Arg	Phe	Ser	Pro	Thr	Pro	Ile
		115					120					125			
Ala	Gln	Asp	Leu	His	Glu	Tyr	Val	Asp	Pro	Arg	Tyr	Phe	Pro	Asn	Ala
	130				135						140				
Lys	Glu	Arg	Glu	Ile	Leu	Phe	Glu	Thr	Arg	Ser	Leu	Lys	Asp	Asp	Tyr
145				150						155					160
Ala	Phe	Pro	Ser	Phe	Ala	Ala	Ala	Lys	Val	Phe	Gly	Leu	Arg	Asp	Glu
				165				170						175	
Val	Ile	Arg	Ile	Gln	Lys	Glu	Leu	Glu	Arg	Gln	Glu	Ala	Leu	Thr	Ser
			180					185					190		
Val	Ala	Thr	Met	Thr	Leu	Met	Arg	Trp	Pro	Phe	Asp	Phe	Arg	Tyr	Ala
		195					200					205			
Ile	Leu	Phe	Leu	Thr	Asp	Lys	Ser	Val	Ser	Lys	Gly	Lys	Ala	Leu	Asp
	210				215						220				
Arg	Val	Val	Asn	Ile	Leu	Tyr	Asp	Gly	Lys	Lys	Pro	Phe	Val	Met	Ala
225				230						235					240
Ser	Gly	Asp	Asp	Ala	Asn	Asp	Leu	Asp	Leu	Ile	Glu	Arg	Gly	Asp	Phe
				245				250						255	
Lys	Ile	Val	Met	Ser	Ser	Ala	Pro	Glu	Glu	Met	His	Val	His	Ala	Asp
			260					265					270		
Phe	Leu	Ala	Pro	Pro	Ala	Asp	Lys	Asn	Gly	Ile	Leu	Ser	Ala	Trp	Glu
		275					280						285		
Ala	Gly	Val	Arg	Tyr	Tyr	Asp	Asp	Leu	Met	Ser	Leu				
	290					295					300				

<210> 410  
 <211> 164  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 410

Ser	Arg	Val	Leu	His	Met	Phe	Phe	Asn	Leu	Phe	Ser	Leu	Val	Phe	Lys
1				5				10						15	
Leu	Ser	Asp	Glu	Leu	Ala	Leu	Ala	Glu	Thr	Ile	Gln	Glu	Pro	Ile	Ser
			20					25					30		
Val	His	Glu	Met	Phe	Pro	Gly	Ser	Met	Lys	Leu	Glu	Met	Phe	Lys	Met
		35					40					45			
Leu	Gly	Ser	Leu	Ile	Leu	Leu	Leu	Thr	Ile	Phe	Gly	Phe	Gly	Val	Trp
	50					55					60				
Ala	Phe	Lys	Lys	Phe	Val	Arg	Ser	Arg	Ser	His	Gly	Phe	Gly	Gly	Ser
65				70						75					80
Ser	Gln	Ile	Lys	Ile	Leu	Glu	Arg	Arg	Ser	Leu	Thr	Pro	Lys	Thr	Ser
				85				90						95	
Ile	Tyr	Leu	Ile	Arg	Val	Val	Asn	Lys	Thr	Leu	Val	Ile	Ala	Glu	Thr
			100					105					110		
Pro	Glu	Lys	Ile	Thr	Leu	Leu	Thr	Glu	Phe	Pro	Pro	Asp	Thr	Asp	Ile
		115					120					125			
Asn	His	Leu	Leu	Gln	Glu	Asn	Asn	Lys	Gln	Ser	Ser	Ser	Ala	Thr	
	130					135						140			

Ser Asp Phe Leu Ser Lys Ala Ile Gln Lys Ile Gln Lys Lys Gln Gln  
 145 150 155 160  
 Thr Asn Gln Asp

<210> 411  
 <211> 161  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 411  
 Met Thr Thr Trp Thr Leu Asn Gln Asn Asn Leu Thr Lys Phe Leu Lys  
 1 5 10 15  
 Ser Ser Asp Glu Glu Pro Phe Leu Glu Arg Glu Ser Gly Leu Thr Tyr  
 20 25 30  
 Ile Asn Ile Gln Ala Asn Gly Asn Glu Leu Pro Leu Phe Phe Val Ile  
 35 40 45  
 Arg Ser Glu Gly Glu Ile Leu Gln Leu Ile Cys Tyr Leu Pro Tyr Gln  
 50 55 60  
 Leu His Glu Ser His Lys Ala Ser Thr Ala Arg Leu Leu His Leu Leu  
 65 70 75 80  
 Asn Arg Asp Ile Asp Ile Pro Gly Phe Gly Met Asp Glu Glu Gln Gly  
 85 90 95  
 Leu Ile Phe Tyr Arg Leu Val Leu Pro Cys Leu Asn Gly Glu Ile His  
 100 105 110  
 Asp Thr Leu Leu Arg Ile Tyr Ile Asp Thr Ile Lys Leu Val Cys Asp  
 115 120 125  
 Ser Phe Ser His Ala Ile Gly Leu Ile Ser Ser Gly Asn Met Asn Leu  
 130 135 140  
 Asp Glu Leu Arg Arg Gln Ala Leu Gln Glu Gln Gln Glu Lys Arg Asn  
 145 150 155 160  
 Glu

<210> 412  
 <211> 249  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 412  
 Asp Val Arg Leu Phe Lys Ser Asn Lys Lys Asn Val Met Ser Ser Gln  
 1 5 10 15  
 Thr Met Asp Val Leu Ile Phe Tyr Asp Thr Glu Thr Thr Gly Thr Gln  
 20 25 30  
 Ile Glu Arg Asp Arg Ile Ile Glu Ile Ala Ala Tyr Asn Ser Val Thr  
 35 40 45  
 Asp Glu Ser Phe Leu Thr Tyr Val Asn Pro Glu Ile Pro Ile Pro Asp  
 50 55 60  
 Glu Ala Ser Lys Ile His Gly Ile Thr Thr Asp Ala Val Leu Ser Ala  
 65 70 75 80  
 Pro Lys Phe Pro Glu Ala Tyr Glu Gly Phe Arg Lys Phe Cys Gly Glu  
 85 90 95  
 Asp Ser Ile Leu Val Ala His Asn Asn Asp Gly Phe Asp Phe Pro Leu  
 100 105 110  
 Leu Gly Lys Glu Cys Arg Arg His Ser Leu Glu Pro Leu Thr Asn Arg  
 115 120 125  
 Thr Ile Asp Ser Leu Lys Trp Ala Gln Lys Tyr Arg Pro Asp Leu Pro  
 130 135 140  
 Lys His Asn Leu Gln Tyr Leu Arg Gln Val Tyr Gly Phe Ala Glu Asn  
 145 150 155 160

Gln Ala His Arg Ala Leu Asp Asp Val Val Ile Leu His Lys Val Phe  
                                   165                                  170                                  175  
 Thr Ser Leu Ile Gly Asp Leu Pro Pro Gln Gln Val Leu Asp Leu Leu  
                                   180                                  185                                  190  
 Gln Gln Ser Tyr His Pro Lys Val Phe Lys Met Pro Phe Gly Lys Tyr  
                                   195                                  200                                  205  
 Lys Gly Gln Pro Leu Val Asp Ile Pro Lys Ser Tyr Phe Glu Trp Leu  
                                   210                                  215                                  220  
 Glu Asn Gln Gly Ala Leu Asp Lys Pro Glu Asn Lys Asp Ile Lys Ala  
 225                                  230                                  235                                  240  
 Ala Ile Ala Leu Leu His Gln Pro Thr  
                                   245

<210> 413

<211> 272

<212> PRT

<213> Chlamydia pneumoniae

<400> 413

Arg His Gln Ser Arg Tyr Ser Ser Ile Thr Ser Thr Asp Met Ile Leu  
 1                                  5                                  10                                  15  
 Thr Ala Ala Phe Ser Pro Cys Pro Asn Asp Ile Phe Leu Phe Arg Ser  
                                   20                                  25                                  30  
 Phe Leu Lys Asp Pro Gln Phe Arg Pro Leu Leu Asn Gln Val Thr Ile  
                                   35                                  40                                  45  
 Ala Asp Ile Glu Thr Leu Asn Thr Leu Ala Leu Gln Arg Arg Leu Ser  
                                   50                                  55                                  60  
 Leu Met Lys Met Ser Ala Ala Leu Phe Pro Leu Val Ser Asp Tyr Tyr  
 65                                  70                                  75                                  80  
 Asn Leu Met Asp Val Gly Asn Thr Leu Gly Tyr Asn Ser Gly Pro Ile  
                                   85                                  90                                  95  
 Val Leu Ser Leu Asp Pro Glu Cys Ser Leu Asp Thr Leu Ala Thr Pro  
                                   100                                  105                                  110  
 Gly Glu Met Thr Thr Ala His Ala Leu Cys Lys Leu Tyr Tyr Pro Lys  
                                   115                                  120                                  125  
 Ala Lys Leu Ile Pro Met Pro Tyr Asp Lys Ile Leu Ser Ala Ile Leu  
                                   130                                  135                                  140  
 Gln Gly Lys Val Asp Gly Gly Ala Leu Ile His Glu Glu Arg Phe Ser  
 145                                  150                                  155                                  160  
 Tyr Asp Leu Gln Leu Thr Leu Arg Ala Asp Phe Gly Glu Leu Trp Arg  
                                   165                                  170                                  175  
 Arg Lys Thr Ile Phe Pro Leu Pro Leu Gly Cys Leu Ala Ile Ala Lys  
                                   180                                  185                                  190  
 Tyr Val Pro Met Ala Thr Val Asp Ala Leu Thr Ala Ala Leu Arg Lys  
                                   195                                  200                                  205  
 Ser Leu Ile Cys Ser Leu Lys Asp Pro Ile Thr Ala Gly Ala Lys Ala  
                                   210                                  215                                  220  
 Val Glu Tyr Ser Lys Asn Lys Asn Val Thr Val Ile His Arg Phe Ile  
 225                                  230                                  235                                  240  
 Gly Thr Tyr Ile Asn Lys Glu Thr Phe Gln Leu Ser Lys Thr Gly Lys  
                                   245                                  250                                  255  
 Lys Ala Leu His Met Leu Trp Lys Ala Asn Glu Cys Cys Gln Tyr Thr  
                                   260                                  265                                  270

<210> 414

<211> 244

<212> PRT

<213> Chlamydia pneumoniae



<400> 414

Glu	Pro	Ile	Ser	Thr	Lys	Lys	Pro	Phe	Asn	Tyr	Leu	Lys	Leu	Gly	Lys
1				5					10					15	
Lys	Leu	Tyr	Ile	Cys	Ser	Gly	Arg	Pro	Met	Asn	Ala	Val	Asn	Thr	Pro
			20					25					30		
Lys	Lys	Ile	Leu	Cys	Ile	Val	Ala	Asp	Tyr	Arg	Glu	Ile	Ser	Pro	Leu
		35					40					45			
Ile	Glu	Gln	Leu	Asp	Phe	Thr	Gln	Ile	Asn	Glu	His	Leu	Tyr	Ser	Tyr
	50					55					60				
Arg	Cys	Thr	Asp	Tyr	His	Leu	Asp	Leu	Tyr	Ile	Val	His	Val	Trp	Gly
65					70					75					80
Ser	Thr	Ala	Val	Leu	Asn	Ala	Leu	Gln	Ser	Tyr	Cys	Gln	Ala	Tyr	Thr
				85					90					95	
Asp	Tyr	Asp	Leu	Trp	Ile	Asn	Pro	Gly	Phe	Val	Gly	Ala	Cys	Ser	Pro
			100					105					110		
Glu	Ile	Pro	Leu	Gly	Gln	Cys	Tyr	Thr	Ile	Glu	Lys	Ile	Ala	Asn	Leu
		115						120				125			
Thr	Thr	Asp	Thr	Pro	Pro	Val	Leu	Ser	Glu	Asp	Pro	Pro	Tyr	Ile	Phe
	130					135					140				
Asp	Ala	Leu	Pro	Asp	Ser	Leu	Pro	Lys	Ser	Ser	Leu	Val	Thr	Ser	Pro
145					150					155					160
Val	Leu	Tyr	His	Tyr	Gly	Phe	His	Lys	Thr	Phe	Lys	Leu	Leu	Asp	Met
				165					170					175	
Glu	Gly	Tyr	Ala	Ile	Ala	Ser	Gln	Ala	Ala	Glu	His	His	Ile	Pro	Cys
			180					185					190		
Ser	Phe	Leu	Lys	Ile	Thr	Ser	Asp	Tyr	Thr	Val	Pro	Gly	Asp	Cys	Pro
		195					200					205			
Phe	Ser	Arg	Leu	Glu	Glu	Val	Ser	Gln	Lys	Leu	Thr	Gln	Thr	Leu	Val
	210					215					220				
Glu	Leu	Leu	Pro	Glu	Leu	Met	Glu	Arg	Ala	Ile	Pro	Pro	Lys	Leu	Leu
225					230					235					240
Leu	Pro	Cys	Pro												

<210> 415  
 <211> 661  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 415

Val	Phe	Met	Lys	Leu	Leu	Leu	Lys	Ala	Val	Leu	Arg	His	Lys	Asn	His
1				5					10					15	
Leu	Val	Ile	Leu	Gly	Cys	Ser	Leu	Leu	Ala	Ile	Leu	Gly	Leu	Thr	Phe
			20					25					30		
Ser	Ser	Gln	Met	Glu	Ile	Phe	Ser	Leu	Gly	Met	Ile	Ala	Lys	Thr	Gly
		35					40					45			
Pro	Asp	Ala	Phe	Leu	Leu	Phe	Gly	Arg	Lys	Glu	Ser	Gly	Lys	Leu	Val
	50					55					60				
Lys	Val	Ser	Glu	Leu	Ser	Gln	Lys	Asp	Ile	Leu	Glu	Asn	Trp	Gln	Ala
65					70					75					80
Ile	Ser	Lys	Asp	Ser	Glu	Thr	Leu	Thr	Val	Ser	Asp	Ala	Thr	Thr	Tyr
				85					90					95	
Ile	Ala	Glu	His	Gly	Lys	Ser	Thr	Ala	Ser	Leu	Thr	Ser	Lys	Leu	Ser
			100					105					110		
Lys	Phe	Val	Arg	Asn	Tyr	Ile	Asp	Val	Ser	Arg	Phe	Arg	Gly	Leu	Ala
		115					120					125			
Ile	Phe	Leu	Ile	Cys	Val	Ala	Ile	Phe	Lys	Ala	Val	Thr	Leu	Phe	Phe
	130					135					140				
Gln	Arg	Phe	Leu	Gly	Gln	Val	Val	Ala	Ile	Arg	Val	Ser	Arg	Asp	Leu
145					150					155					160

Arg	Gln	Asp	Tyr	Phe	Lys	Ala	Leu	Gln	Gln	Leu	Pro	Met	Thr	Phe	Phe	
				165					170					175		
His	Asp	His	Asp	Ile	Gly	Asn	Leu	Ser	Asn	Arg	Val	Met	Thr	Asp	Ser	
			180					185					190			
Ala	Ser	Ile	Ala	Leu	Ala	Val	Asn	Ser	Leu	Met	Ile	Asn	Tyr	Ile	Gln	
		195					200					205				
Ala	Pro	Ile	Thr	Phe	Ile	Leu	Thr	Leu	Gly	Val	Cys	Leu	Ser	Ile	Ser	
	210					215					220					
Trp	Lys	Phe	Ser	Ile	Leu	Ile	Cys	Val	Ala	Phe	Pro	Ile	Phe	Ile	Leu	
225					230				235						240	
Pro	Ile	Val	Val	Ile	Ala	Arg	Lys	Ile	Lys	Asn	Leu	Ala	Lys	Arg	Ile	
				245				250						255		
Gln	Lys	Ser	Gln	Asp	Ser	Phe	Ser	Ser	Val	Leu	Tyr	Asp	Phe	Leu	Ala	
			260					265					270			
Gly	Val	Met	Thr	Val	Lys	Val	Phe	Arg	Thr	Glu	Lys	Phe	Ala	Phe	Thr	
	275						280					285				
Lys	Tyr	Cys	Glu	His	Asn	Asn	Lys	Ile	Ser	Ala	Leu	Glu	Glu	Lys	Ser	
	290					295					300					
Ala	Ala	Tyr	Gly	Leu	Leu	Pro	Arg	Pro	Leu	Leu	His	Thr	Ile	Ala	Ser	
305					310					315					320	
Leu	Phe	Phe	Ala	Phe	Val	Val	Val	Ile	Gly	Ile	Tyr	Lys	Phe	Ala	Ile	
				325					330					335		
Pro	Pro	Glu	Glu	Leu	Ile	Val	Phe	Cys	Gly	Leu	Leu	Tyr	Leu	Ile	Tyr	
		340						345					350			
Asp	Pro	Ile	Lys	Lys	Phe	Gly	Asp	Glu	Asn	Thr	Ser	Ile	Met	Arg	Gly	
		355					360						365			
Cys	Ala	Ala	Ala	Glu	Arg	Phe	Tyr	Glu	Val	Leu	Asn	His	Pro	Asp	Leu	
	370					375					380					
His	Ser	Gln	Lys	Glu	Arg	Glu	Ile	Glu	Phe	Leu	Gly	Leu	Ser	Asn	Thr	
385					390					395					400	
Ile	Thr	Phe	Glu	Asn	Val	Ser	Phe	Gly	Tyr	Gln	Glu	Asp	Lys	His	Ile	
				405					410					415		
Leu	Lys	Asn	Leu	Ser	Phe	Thr	Leu	His	Lys	Gly	Glu	Ala	Leu	Gly	Ile	
		420						425					430			
Val	Gly	Pro	Thr	Gly	Ser	Gly	Lys	Thr	Thr	Leu	Val	Lys	Leu	Leu	Pro	
	435						440					445				
Arg	Leu	Tyr	Glu	Val	Ser	Gln	Gly	Lys	Ile	Leu	Ile	Asp	Ser	Leu	Pro	
	450					455					460					
Ile	Thr	Glu	Tyr	Asn	Lys	Gly	Ser	Leu	Arg	Asn	His	Ile	Ala	Cys	Val	
465					470					475					480	
Leu	Gln	Asn	Pro	Phe	Leu	Phe	Tyr	Asp	Thr	Val	Trp	Asn	Asn	Leu	Thr	
				485					490					495		
Cys	Gly	Lys	Asp	Met	Glu	Glu	Glu	Ala	Val	Leu	Glu	Ala	Leu	Lys	Arg	
			500					505					510			
Ala	Tyr	Ala	Asp	Glu	Phe	Ile	Leu	Lys	Leu	Pro	Lys	Gly	Val	His	Ser	
	515						520					525				
Val	Leu	Glu	Glu	Ser	Gly	Lys	Asn	Leu	Ser	Gly	Gly	Gln	Gln	Gln	Arg	
	530					535					540					
Leu	Ala	Ile	Ala	Arg	Ala	Leu	Leu	Lys	Asn	Ala	Ser	Ile	Leu	Ile	Leu	
545					550					555					560	
Asp	Glu	Ala	Thr	Ser	Ala	Leu	Asp	Ala	Ile	Ser	Glu	Asn	Tyr	Ile	Lys	
				565					570					575		
Asn	Ile	Ile	Gly	Glu	Leu	Lys	Gly	Gln	Cys	Thr	Gln	Ile	Ile	Ile	Ala	
			580					585					590			
His	Lys	Leu	Thr	Thr	Leu	Glu	His	Val	Asp	Arg	Val	Leu	Tyr	Ile	Glu	
	595						600					605				
Asn	Gly	Gln	Lys	Ile	Ala	Glu	Gly	Thr	Lys	Glu	Glu	Leu	Leu	Gln	Thr	
	610					615					620					
Cys	Pro	Glu	Phe	Leu	Lys	Met	Trp	Glu	Leu	Ser	Gly	Thr	Lys	Glu	Tyr	
625					630					635					640	

Asn Arg Val Phe Val Pro Asp His Lys Leu Val Ala Asn Pro Thr Asp  
645 650 655  
Met Ala Ile Thr Thr  
660

<210> 416  
<211> 344  
<212> PRT  
<213> Chlamydia pneumoniae

<400> 416  
Leu Cys Leu Arg Ile Val Cys Ile Lys Met Ile Leu Phe Ile Arg Gly  
1 5 10 15  
Glu His Ile Leu Met Glu Leu Leu Pro His Glu Lys Gln Val Val Glu  
20 25 30  
Tyr Glu Lys Ala Ile Ala Glu Phe Lys Glu Lys Asn Lys Lys Asn Ser  
35 40 45  
Leu Leu Ser Ser Ser Glu Ile Gln Lys Leu Glu Lys Arg Leu Asp Lys  
50 55 60  
Leu Lys Glu Lys Ile Tyr Ser Asp Leu Thr Pro Trp Glu Arg Val Gln  
65 70 75 80  
Ile Cys Arg His Pro Ser Arg Pro Arg Thr Val Asn Tyr Ile Glu Gly  
85 90 95  
Met Cys Glu Glu Phe Val Glu Leu Cys Gly Asp Arg Thr Phe Arg Asp  
100 105 110  
Asp Pro Ala Val Val Gly Gly Phe Val Lys Ile Gln Gly Gln Arg Phe  
115 120 125  
Val Leu Ile Gly Gln Glu Lys Gly Cys Asp Thr Ala Ser Arg Leu His  
130 135 140  
Arg Asn Phe Gly Met Leu Cys Pro Glu Gly Phe Arg Lys Ala Leu Arg  
145 150 155 160  
Leu Gly Lys Leu Ala Glu Lys Phe Gly Leu Pro Val Val Phe Leu Val  
165 170 175  
Asp Thr Pro Gly Ala Tyr Pro Gly Leu Thr Ala Glu Glu Arg Gly Gln  
180 185 190  
Gly Trp Ala Ile Ala Lys Asn Leu Phe Glu Leu Ser Arg Leu Ala Thr  
195 200 205  
Pro Val Ile Ile Val Val Ile Gly Glu Gly Cys Ser Gly Gly Ala Leu  
210 215 220  
Gly Met Ala Val Gly Asp Ser Val Ala Met Leu Glu His Ser Tyr Tyr  
225 230 235 240  
Ser Val Ile Ser Pro Glu Gly Cys Ala Ser Ile Leu Trp Lys Asp Pro  
245 250 255  
Lys Lys Asn Ser Glu Ala Ala Ser Met Leu Lys Met His Gly Glu Asn  
260 265 270  
Leu Lys Gln Phe Gly Ile Ile Asp Thr Val Ile Lys Glu Pro Ile Gly  
275 280 285  
Gly Ala His His Asp Pro Ala Leu Val Tyr Ser Asn Val Arg Glu Phe  
290 295 300  
Ile Ile Gln Glu Trp Leu Arg Leu Lys Asp Leu Ala Ile Glu Glu Leu  
305 310 315 320  
Leu Glu Lys Arg Tyr Glu Lys Phe Arg Ser Ile Gly Leu Tyr Glu Thr  
325 330 335  
Thr Ser Glu Ser Gly Pro Glu Ala  
340

<210> 417  
<211> 434  
<212> PRT  
<213> Chlamydia pneumoniae

<400> 417  
 Ser Gln Thr Gly Phe Leu Pro Gly Leu Thr Leu Ile Phe Val Ile Ile  
 1 5 10 15  
 Ile Val Trp Cys Asn Ala Phe Leu Ile Lys Leu Cys Val Ile Met Gly  
 20 25 30  
 Leu Gln Ser Arg Leu Gln His Cys Ile Glu Val Ser Gln Asn Ser Asn  
 35 40 45  
 Phe Asp Ser Gln Val Lys Gln Phe Ile Tyr Ala Cys Gln Asp Lys Thr  
 50 55 60  
 Leu Arg Gln Ser Val Leu Lys Ile Phe Arg Tyr His Pro Leu Leu Lys  
 65 70 75 80  
 Ile His Asp Ile Ala Arg Ala Val Tyr Leu Leu Met Ala Leu Glu Glu  
 85 90 95  
 Gly Glu Asp Leu Gly Leu Ser Phe Leu Asn Val Gln Gln Tyr Pro Ser  
 100 105 110  
 Gly Ala Val Glu Leu Phe Ser Cys Gly Gly Phe Pro Trp Lys Gly Leu  
 115 120 125  
 Pro Tyr Pro Ala Glu His Ala Glu Phe Gly Leu Leu Leu Gln Ile  
 130 135 140  
 Ala Glu Phe Tyr Glu Glu Ser Gln Ala Tyr Val Ser Lys Met Ser His  
 145 150 155 160  
 Phe Gln Gln Ala Leu Phe Asp His Gln Gly Ser Val Phe Pro Ser Leu  
 165 170 175  
 Trp Ser Gln Glu Asn Ser Arg Leu Leu Lys Glu Lys Thr Thr Leu Ser  
 180 185 190  
 Gln Ser Phe Leu Phe Gln Leu Gly Met Gln Ile His Pro Glu Tyr Ser  
 195 200 205  
 Leu Glu Asp Pro Ala Leu Gly Phe Trp Met Gln Arg Thr Arg Ser Ser  
 210 215 220  
 Ser Ala Phe Val Ala Ala Ser Gly Cys Gln Ser Ser Leu Gly Ala Tyr  
 225 230 235 240  
 Ser Ser Gly Asp Val Gly Val Ile Ala Tyr Gly Pro Cys Ser Gly Asp  
 245 250 255  
 Ile Ser Asp Cys Tyr Tyr Phe Gly Cys Cys Gly Ile Ala Lys Glu Phe  
 260 265 270  
 Val Cys Gln Lys Ser His Gln Thr Thr Glu Ile Ser Phe Leu Thr Ser  
 275 280 285  
 Thr Gly Lys Pro His Pro Arg Asn Thr Gly Phe Ser Tyr Leu Arg Asp  
 290 295 300  
 Ser Tyr Val His Leu Pro Ile Arg Cys Lys Ile Thr Ile Ser Asp Lys  
 305 310 315 320  
 Gln Tyr Arg Val His Ala Ala Leu Ala Glu Ala Thr Ser Ala Met Thr  
 325 330 335  
 Phe Ser Ile Phe Cys Lys Gly Lys Asn Cys Gln Val Val Asp Gly Pro  
 340 345 350  
 Arg Leu Arg Ser Cys Ser Leu Asp Ser Tyr Lys Gly Pro Gly Asn Asp  
 355 360 365  
 Ile Met Ile Leu Gly Glu Asn Asp Ala Ile Asn Ile Val Ser Ala Ser  
 370 375 380  
 Pro Tyr Met Glu Ile Phe Ala Leu Gln Gly Lys Glu Lys Phe Trp Asn  
 385 390 395 400  
 Ala Asp Phe Leu Ile Asn Ile Pro Tyr Lys Glu Glu Gly Val Met Leu  
 405 410 415  
 Ile Phe Glu Lys Lys Val Thr Ser Glu Lys Gly Arg Phe Phe Thr Lys  
 420 425 430  
 Met Asn

<210> 418  
 <211> 105  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 418  
 Glu Ala Leu Ser Asn Met Ala Thr Met Thr Lys Lys Lys Leu Ile Ser  
 1 5 10 15  
 Thr Ile Ser Gln Asp His Lys Ile His Pro Asn His Val Arg Thr Val  
 20 25 30  
 Ile Gln Asn Phe Leu Asp Lys Met Thr Asp Ala Leu Val Lys Gly Asp  
 35 40 45  
 Arg Leu Glu Phe Arg Asp Phe Gly Val Leu Gln Val Val Glu Arg Lys  
 50 55 60  
 Pro Lys Val Gly Arg Asn Pro Lys Asn Ala Ala Val Pro Ile His Ile  
 65 70 75 80  
 Pro Ala Arg Arg Ala Val Lys Phe Thr Pro Gly Lys Arg Met Lys Arg  
 85 90 95  
 Leu Ile Glu Thr Pro Asn Lys His Ser  
 100 105

<210> 419  
 <211> 268  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 419  
 Arg Glu Lys Gly Met Lys Leu Thr Lys Tyr Leu Asn Thr Lys Gln Leu  
 1 5 10 15  
 Arg Ser Met Ile Ser Arg Leu Phe Val Arg Tyr Ser Leu Pro Met Ser  
 20 25 30  
 Lys Gln Leu Ser Phe Phe Ala Leu Cys Val Leu Gly Ser His Pro Ile  
 35 40 45  
 Phe Ala Gln Thr Pro Asn Pro Pro Gln Arg Val Arg Arg Ser Glu Val  
 50 55 60  
 Ile Phe Ile Asp Pro Gly His Gly Gly Lys Asp Gln Gly Thr Ala Ser  
 65 70 75 80  
 Lys Glu Leu His Tyr Glu Glu Lys Ser Leu Thr Leu Ser Leu Ala Leu  
 85 90 95  
 Thr Val Gln Ser Tyr Leu Lys Arg Met Gly Tyr Lys Pro Gln Leu Thr  
 100 105 110  
 Arg Ser Ser Asp Val Tyr Val Asp Leu Gly Lys Arg Val Ala Leu Ser  
 115 120 125  
 Asn Arg Gly Gln Gly Asp Val Phe Ile Ser Ile His Cys Asn His Ser  
 130 135 140  
 Ser Asn Ala Ala Ala Phe Gly Thr Glu Val Tyr Phe Tyr Asn Gly Lys  
 145 150 155 160  
 Val Gly Ser Pro Thr Arg Asn Arg Met Ser Glu Val Leu Gly Lys Asn  
 165 170 175  
 Ile Leu Ala Ala Met Glu Lys Asn Gly Ile Leu Lys Ser Arg Gly Leu  
 180 185 190  
 Lys Thr Ala Asn Phe Val Val Ile Arg Asp Thr Ser Met Pro Ala Val  
 195 200 205  
 Leu Val Glu Thr Gly Phe Leu Ser Asn Ser Arg Glu Arg Ala Ala Leu  
 210 215 220  
 Gln Asp Ala Arg Tyr Arg Met His Val Ala Lys Gly Ile Ala Glu Gly  
 225 230 235 240  
 Val His Asn Phe Leu Ser Gly Pro Ser Phe Gln Lys Pro Lys Gln Asn  
 245 250 255  
 Ile Ala Lys Ile Arg Lys Pro Gln Ile Gln Ala Asn  
 260 265

<210> 420  
 <211> 483  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 420  
 Met Asp Leu Lys Glu Leu Leu His Gly Val Gln Ala Lys Ile Tyr Gly  
 1 5 10 15  
 Lys Val Arg Pro Leu Glu Val Arg Asn Leu Thr Arg Asp Ser Arg Cys  
 20 25 30  
 Val Ser Val Gly Asp Ile Phe Ile Ala His Lys Gly Gln Arg Tyr Asp  
 35 40 45  
 Gly Asn Asp Phe Ala Val Asp Ala Leu Ala Asn Gly Ala Ile Ala Ile  
 50 55 60  
 Ala Ser Ser Leu Tyr Asn Pro Phe Leu Ser Val Val Gln Ile Ile Thr  
 65 70 75 80  
 Pro Asn Leu Glu Glu Leu Glu Ala Glu Leu Ser Ala Lys Tyr Tyr Glu  
 85 90 95  
 Tyr Pro Ser Ser Lys Leu His Thr Ile Gly Val Thr Gly Thr Asn Gly  
 100 105 110  
 Lys Thr Thr Val Thr Cys Leu Ile Lys Ala Leu Leu Asp Ser Tyr Gln  
 115 120 125  
 Lys Pro Ser Gly Leu Leu Gly Thr Ile Glu His Ile Leu Gly Glu Gly  
 130 135 140  
 Val Ile Lys Asp Gly Phe Thr Thr Pro Thr Pro Ala Leu Leu Gln Lys  
 145 150 155 160  
 Tyr Leu Ala Thr Met Val Arg Gln Asn Arg Asp Ala Val Val Met Glu  
 165 170 175  
 Val Ser Ser Ile Gly Leu Ala Ser Gly Arg Val Ala Tyr Thr Asn Phe  
 180 185 190  
 Asp Thr Ala Val Leu Thr Asn Ile Thr Leu Asp His Leu Asp Phe His  
 195 200 205  
 Gly Thr Phe Glu Thr Tyr Val Ala Ala Lys Ala Lys Leu Phe Ser Leu  
 210 215 220  
 Val Pro Pro Ser Gly Met Val Val Ile Asn Thr Asp Ser Pro Tyr Ala  
 225 230 235 240  
 Ser Gln Cys Ile Glu Ser Ala Lys Ala Pro Val Ile Thr Tyr Gly Ile  
 245 250 255  
 Glu Ser Ala Ala Asp Tyr Arg Ala Thr Asp Ile Gln Leu Ser Ser Ser  
 260 265 270  
 Gly Thr Lys Tyr Thr Leu Val Tyr Gly Asp Gln Lys Ile Ala Cys Ser  
 275 280 285  
 Ser Ser Phe Ile Gly Lys Tyr Asn Val Tyr Asn Leu Leu Ala Ala Ile  
 290 295 300  
 Ser Thr Val His Ala Ser Leu Arg Cys Asp Leu Glu Asp Leu Leu Glu  
 305 310 315 320  
 Lys Ile Gly Leu Cys Gln Pro Pro Pro Gly Arg Leu Asp Pro Val Leu  
 325 330 335  
 Met Gly Pro Cys Pro Val Tyr Ile Asp Tyr Ala His Thr Pro Asp Ala  
 340 345 350  
 Leu Asp Asn Val Leu Thr Gly Leu His Glu Leu Leu Pro Glu Gly Gly  
 355 360 365  
 Arg Leu Ile Val Val Phe Gly Cys Gly Gly Asp Arg Asp Arg Ser Lys  
 370 375 380  
 Arg Lys Leu Met Ala Gln Val Val Glu Arg Tyr Gly Phe Ala Val Val  
 385 390 395 400  
 Thr Ser Asp Asn Pro Arg Ser Glu Pro Pro Glu Asp Ile Val Asn Glu  
 405 410 415  
 Ile Cys Asp Gly Phe Tyr Ser Lys Asn Tyr Phe Ile Glu Ile Asp Arg  
 420 425 430

Lys Gln Ala Ile Thr Tyr Ala Leu Ser Ile Ala Ser Asp Arg Asp Ile  
           435                          440                          445  
 Val Leu Ile Ala Gly Lys Gly His Glu Ala Tyr Gln Ile Phe Lys His  
           450                          455                          460  
 Gln Thr Val Ala Phe Asp Asp Lys Gln Thr Val Cys Glu Val Leu Ala  
 465                          470                          475                          480  
 Ser Tyr Val

<210> 421  
 <211> 674  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 421  
 Gln Leu Phe Pro Asn Thr Asn Ile Trp Asn Ile Pro Gln Lys Lys Val  
 1                          5                          10                          15  
 Ser Val Phe Tyr Pro Met Ser Tyr Arg Lys Arg Ser Thr Leu Ile Val  
           20                          25                          30  
 Leu Gly Val Phe Ala Leu Tyr Ala Leu Leu Val Leu Arg Tyr Tyr Lys  
           35                          40                          45  
 Ile Gln Ile Cys Glu Gly Asp His Trp Ala Ala Glu Ala Leu Gly Gln  
 50                          55                          60  
 His Glu Phe Cys Val Arg Asp Pro Phe Arg Arg Gly Thr Phe Phe Ala  
 65                          70                          75                          80  
 Asn Thr Thr Val Arg Lys Gly Asp Lys Asp Leu Gln Gln Pro Phe Ala  
           85                          90                          95  
 Val Asp Ile Thr Lys Phe His Leu Cys Ala Asp Pro Leu Ala Ile Pro  
           100                          105                          110  
 Glu Cys His Arg Asp Glu Ile Ile Gln Gly Ile Leu Gln Phe Ile Glu  
           115                          120                          125  
 Gly Gln Thr Tyr Asp Asp Leu Ser Leu Lys Leu Asp Lys Lys Ser Arg  
 130                          135                          140  
 Tyr Cys Lys Leu Tyr Pro Leu Leu Asp Val Ser Val His Asp Arg Leu  
 145                          150                          155                          160  
 Ser Leu Trp Trp Lys Gly Tyr Ala Thr Lys His Arg Leu Pro Thr Asn  
           165                          170                          175  
 Ala Leu Phe Phe Ile Thr Asp Tyr Gln Arg Ser Tyr Pro Phe Gly Lys  
           180                          185                          190  
 Leu Leu Gly Gln Val Leu His Thr Leu Arg Glu Ile Lys Asp Glu Lys  
           195                          200                          205  
 Thr Gly Lys Ala Phe Pro Thr Gly Gly Met Glu Ala Tyr Phe Asn His  
           210                          215                          220  
 Ile Leu Glu Gly Asp Val Gly Glu Arg Lys Leu Leu Arg Ser Pro Leu  
 225                          230                          235                          240  
 Asn Arg Leu Asp Thr Asn Arg Val Ile Lys Leu Pro Lys Asp Gly Ser  
           245                          250                          255  
 Asp Ile Tyr Leu Thr Ile Asn Pro Val Ile Gln Thr Ile Ala Glu Glu  
           260                          265                          270  
 Glu Leu Glu Arg Gly Val Leu Glu Ala Lys Ala Gln Gly Gly Arg Leu  
           275                          280                          285  
 Ile Leu Met Asn Ser Gln Thr Gly Glu Ile Leu Ala Leu Ala Gln Tyr  
 290                          295                          300  
 Pro Phe Phe Asp Pro Thr Asn Tyr Lys Glu Tyr Phe Asn Asn Lys Glu  
 305                          310                          315                          320  
 Arg Ile Glu His Thr Lys Val Ser Phe Val Ser Asp Val Phe Glu Pro  
           325                          330                          335  
 Gly Ser Ile Met Lys Pro Leu Thr Val Ala Ile Ala Leu Gln Ala Asn  
           340                          345                          350  
 Glu Glu Ala Ser Leu Lys Ser Gln Lys Lys Ile Phe Asp Pro Glu Glu  
           355                          360                          365

Pro Ile Asp Val Thr Arg Thr Leu Phe Pro Gly Arg Lys Gly Ser Pro  
 370 375 380  
 Leu Lys Asp Ile Ser Arg Asn Ser Gln Leu Asn Met Tyr Met Ala Ile  
 385 390 395 400  
 Gln Lys Ser Ser Asn Val Tyr Val Ala Gln Leu Ala Asp Arg Ile Ile  
 405 410 415  
 Gln Ser Leu Gly Val Ala Trp Tyr Gln Gln Lys Leu Leu Ala Leu Gly  
 420 425 430  
 Phe Gly Arg Lys Thr Gly Ile Glu Leu Pro Ser Glu Ala Ser Gly Leu  
 435 440 445  
 Val Pro Ser Pro His Arg Phe His Ile Asn Gly Ser Leu Glu Trp Ser  
 450 455 460  
 Leu Ser Thr Pro Tyr Ser Leu Ala Met Gly Tyr Asn Ile Leu Ala Thr  
 465 470 475 480  
 Gly Ile Gln Met Val Gln Ala Tyr Ala Ile Leu Ala Asn Gly Gly Tyr  
 485 490 495  
 Ala Val Arg Pro Thr Leu Val Lys Lys Ile Val Ser Ala Ser Gly Glu  
 500 505 510  
 Glu Tyr His Leu Pro Thr Lys Glu Lys Thr Arg Leu Phe Ser Glu Glu  
 515 520 525  
 Ile Thr Arg Glu Val Val Arg Ala Met Arg Phe Thr Thr Leu Pro Gly  
 530 535 540  
 Gly Ser Gly Phe Arg Ala Ser Pro Lys His His Ser Ser Ala Gly Lys  
 545 550 555 560  
 Thr Gly Thr Thr Glu Lys Met Ile His Gly Lys Tyr Asp Lys Arg Arg  
 565 570 575  
 His Ile Ala Ser Phe Ile Gly Phe Thr Pro Val Glu Ser Ser Glu Gly  
 580 585 590  
 Asn Phe Pro Pro Leu Val Met Leu Val Ser Ile Asp Asp Pro Glu Tyr  
 595 600 605  
 Gly Leu Arg Ala Asp Gly Thr Lys Asn Tyr Met Gly Gly Arg Cys Ala  
 610 615 620  
 Ala Pro Ile Phe Ser Arg Val Ala Asp Arg Thr Leu Leu Tyr Leu Gly  
 625 630 635 640  
 Ile Leu Pro Asp Lys Lys Leu Arg Asn Cys Asp Glu Glu Ala Ala Ala  
 645 650 655  
 Leu Lys Arg Leu Tyr Glu Glu Trp Asn Arg Ser Pro Lys Gln Gly Gly  
 660 665 670  
 Thr Arg

<210> 422  
 <211> 99  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 422  
 Lys Ser Phe Pro Met Asn Lys Ser Arg Phe Leu Arg Leu Cys Cys Cys  
 1 5 10 15  
 Leu Cys Phe Cys Gly Ser Leu Phe Tyr Phe Tyr Ile Asn Lys Gln Asn  
 20 25 30  
 Ser Leu Thr Lys Leu Arg Leu Glu Ile Pro Cys Leu Ser Val Arg Leu  
 35 40 45  
 Arg Gln Leu Glu Gln Gln Asn Ile Ser Leu Arg Phe Leu Ile Asp Lys  
 50 55 60  
 Ile Glu Arg Pro Asp His Leu Met Glu Ile Ala Ala Leu Pro Glu Tyr  
 65 70 75 80  
 Gln Tyr Leu Glu Tyr Pro Ser Glu Glu Ser Ile Ser Leu Leu Ser Tyr  
 85 90 95  
 Glu Leu Pro



<210> 423  
 <211> 300  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 423  
 Glu Ile Leu Met Ser Glu Arg Ala His Ile Pro Val Leu Val Glu Glu  
 1 5 10 15  
 Cys Leu Ala Leu Phe Ala Gln Arg Pro Pro Gln Thr Phe Arg Asp Val  
 20 25 30  
 Thr Leu Gly Ala Gly Gly His Ala Tyr Ala Phe Leu Glu Ala Tyr Pro  
 35 40 45  
 Ser Leu Thr Cys Tyr Asp Gly Ser Asp Arg Asp Leu Gln Ala Leu Ala  
 50 55 60  
 Ile Ala Glu Lys Arg Leu Glu Thr Phe Gln Asp Arg Val Ser Phe Ser  
 65 70 75 80  
 His Ala Ser Phe Glu Asp Leu Ala Asn Gln Pro Thr Pro Arg Leu Tyr  
 85 90 95  
 Asp Gly Val Leu Ala Asp Leu Gly Val Ser Ser Met Gln Leu Asp Thr  
 100 105 110  
 Leu Ser Arg Gly Phe Ser Phe Gln Gly Glu Lys Glu Glu Leu Asp Met  
 115 120 125  
 Arg Met Asp Gln Thr Gln Glu Leu Ser Ala Ser Asp Val Leu Asn Ser  
 130 135 140  
 Leu Lys Glu Glu Glu Leu Gly Arg Ile Phe Arg Glu Tyr Gly Glu Glu  
 145 150 155 160  
 Pro Gln Trp Lys Ser Ala Ala Lys Ala Val Val His Phe Arg Lys His  
 165 170 175  
 Lys Lys Ile Leu Ser Ile Gln Asp Val Lys Glu Ala Leu Leu Gly Val  
 180 185 190  
 Phe Pro His Tyr Arg Phe His Arg Lys Ile His Pro Leu Thr Leu Ile  
 195 200 205  
 Phe Gln Ala Leu Arg Val Tyr Val Asn Gly Glu Asp Arg Gln Leu Lys  
 210 215 220  
 Ser Leu Leu Thr Ser Ala Ile Ser Trp Leu Ala Pro Gln Gly Arg Leu  
 225 230 235 240  
 Val Ile Ile Ser Phe Cys Ser Ser Glu Asp Arg Pro Val Lys Trp Phe  
 245 250 255  
 Phe Lys Glu Ala Glu Ala Ser Gly Leu Gly Lys Val Ile Thr Lys Lys  
 260 265 270  
 Val Ile Gln Pro Thr Tyr Gln Glu Val Arg Arg Asn Pro Arg Ser Arg  
 275 280 285  
 Ser Ala Lys Leu Arg Cys Phe Glu Lys Ala Ser Gln  
 290 295 300

<210> 424  
 <211> 184  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 424  
 Gly Leu Ala Met Val Glu Ile Phe Asn Tyr Ser Thr Ser Ile Tyr Glu  
 1 5 10 15  
 Gln His Ala Ser Asn Asn Arg Ile Val Ser Asp Phe Arg Lys Glu Ile  
 20 25 30  
 Gln Met Glu Gly Ile Ser Ile Arg Asp Val Ala Lys His Ala Gln Ile  
 35 40 45  
 Leu Asp Met Asn Pro Lys Pro Ser Ala Leu Thr Ser Leu Leu Gln Thr  
 50 55 60  
 Asn Gln Lys Ser His Trp Ala Cys Phe Ser Pro Pro Asn Asn Phe Tyr  
 65 70 75 80

Lys Gln Arg Phe Ser Thr Pro Tyr Leu Ala Pro Ser Leu Gly Ser Pro  
                     85                    90                    95  
 Asp Gln Gln Asp Glu Asp Ile Glu Lys Ile Ser Ser Phe Leu Lys Val  
                     100                    105                    110  
 Leu Thr Arg Gly Lys Phe Ser Tyr Arg Ser Gln Ile Thr Pro Phe Leu  
                     115                    120                    125  
 Ser Tyr Lys Asp Lys Glu Glu Glu Glu Asp Glu Asp Pro Glu Glu Asp  
                     130                    135                    140  
 Asp Asp Asp Pro Arg Val Gln Gln Gly Lys Val Leu Leu Lys Ala Leu  
 145                    150                    155                    160  
 Asp Leu Gly Val Lys Ser Thr Asn Val Met Ile Asp Tyr Val Ile Ser  
                     165                    170                    175  
 Arg Ile Phe Gln Phe Val Gln Gly  
                     180

<210> 425

<211> 143

<212> PRT

<213> Chlamydia pneumoniae

<400> 425

Cys Met Leu Asp Asn Glu Trp Lys Ala Ile Leu Gly Trp Gly Asp Asp  
 1                    5                    10                    15  
 Glu Leu Glu Glu Leu Arg Ile Ser Gly Tyr Ser Phe Leu Arg Gln Gly  
                     20                    25                    30  
 His Tyr Ser Lys Ala Ile Leu Phe Phe Glu Ala Leu Val Ile Leu Asp  
                     35                    40                    45  
 Pro Leu Ser Ile Tyr Asp His Gln Thr Leu Gly Gly Leu Tyr Leu Gln  
 50                    55                    60  
 Ile Gly Glu Asn Ser Gln Ala Leu Ala Val Leu Asp Gln Ala Leu Arg  
 65                    70                    75                    80  
 Met Gln Gly Asp His Leu Pro Thr Leu Leu Asn Lys Thr Lys Ala Leu  
                     85                    90                    95  
 Phe Cys Leu Gly Arg Ile Glu Glu Ala Thr Ala Ile Ala Thr Tyr Leu  
                     100                    105                    110  
 Ser Ser Cys Pro Ile Pro Ala Ile Ala Asn Asp Ala Glu Ala Leu Leu  
                     115                    120                    125  
 Met Ser Tyr Ser Lys Ala Thr Lys Lys Asn Ala Ala Leu Val Arg  
 130                    135                    140

<210> 426

<211> 479

<212> PRT

<213> Chlamydia pneumoniae

<400> 426

Ser Arg Cys Asn Glu Ile Phe Ser Pro Ser Leu Met Gly Trp Val Asp  
 1                    5                    10                    15  
 Cys Ile Trp Trp Glu Ser Phe Ile Asn Phe Glu Ser Gly Met Leu Thr  
                     20                    25                    30  
 Cys Asn Glu Cys Thr Thr Trp Glu Gln Phe Leu Asn Tyr Val Lys Thr  
                     35                    40                    45  
 Arg Cys Ser Lys Thr Ala Phe Glu Asn Trp Ile Ser Pro Ile Gln Val  
 50                    55                    60  
 Leu Glu Glu Thr Gln Glu Lys Ile Arg Leu Glu Val Pro Asn Ile Phe  
 65                    70                    75                    80  
 Val Gln Asn Tyr Leu Leu Asp Asn Tyr Lys Arg Asp Leu Cys Ser Phe  
                     85                    90                    95  
 Val Pro Leu Asp Val His Gly Glu Pro Ala Leu Glu Phe Val Val Ala  
                     100                    105                    110

Glu His Lys Lys Pro Ser Ala Pro Val Ala Ser Gln Lys Glu Ser Asn  
 115 120 125  
 Glu Gly Ile Ser Glu Val Phe Glu Glu Thr Lys Asp Phe Glu Leu Lys  
 130 135 140  
 Leu Asn Leu Ser Tyr Arg Phe Asp Asn Phe Ile Glu Gly Pro Ser Asn  
 145 150 155 160  
 Gln Phe Val Lys Ser Ala Ala Val Gly Ile Ala Gly Lys Pro Gly Arg  
 165 170 175  
 Ser Tyr Asn Pro Leu Phe Ile His Gly Gly Val Gly Leu Gly Lys Thr  
 180 185 190  
 His Leu Leu His Ala Val Gly His Tyr Val Arg Glu His His Lys Asn  
 195 200 205  
 Leu Arg Ile His Cys Ile Thr Thr Glu Ala Phe Ile Asn Asp Leu Val  
 210 215 220  
 Tyr His Leu Lys Ser Lys Ser Val Asp Lys Met Lys Asn Phe Tyr Arg  
 225 230 235 240  
 Ser Leu Asp Leu Leu Leu Val Asp Asp Ile Gln Phe Leu Gln Asn Arg  
 245 250 255  
 Gln Asn Phe Glu Glu Glu Phe Cys Asn Thr Phe Glu Thr Leu Ile Asn  
 260 265 270  
 Leu Ser Lys Gln Ile Val Ile Thr Ser Asp Lys Pro Pro Ser Gln Leu  
 275 280 285  
 Lys Leu Ser Glu Arg Ile Ile Ala Arg Met Glu Trp Gly Leu Val Ala  
 290 295 300  
 His Val Gly Ile Pro Asp Leu Glu Thr Arg Val Ala Ile Leu Gln His  
 305 310 315 320  
 Lys Ala Glu Gln Lys Gly Leu Leu Ile Pro Asn Glu Met Ala Phe Tyr  
 325 330 335  
 Ile Ala Asp His Ile Tyr Gly Asn Val Arg Gln Leu Glu Gly Ala Ile  
 340 345 350  
 Asn Lys Leu Thr Ala Tyr Cys Arg Leu Phe Gly Lys Ser Leu Thr Glu  
 355 360 365  
 Thr Thr Val Arg Glu Thr Leu Lys Glu Leu Phe Arg Ser Pro Thr Lys  
 370 375 380  
 Gln Lys Ile Ser Val Glu Thr Ile Leu Lys Ser Val Ala Thr Val Phe  
 385 390 395 400  
 Gln Val Lys Leu Asn Asp Leu Lys Gly Asn Ser Arg Ser Lys Asp Leu  
 405 410 415  
 Val Leu Ala Arg Gln Ile Ala Met Tyr Leu Ala Lys Thr Leu Ile Thr  
 420 425 430  
 Asp Ser Leu Val Ala Ile Gly Ala Ala Phe Gly Lys Thr His Ser Thr  
 435 440 445  
 Val Leu Tyr Ala Cys Lys Thr Ile Glu His Lys Leu Gln Asn Asp Glu  
 450 455 460  
 Thr Leu Lys Arg Gln Val Asn Leu Cys Lys Asn His Ile Val Gly  
 465 470 475

<210> 427

<211> 200

<212> PRT

<213> Chlamydia pneumoniae

<400> 427

Phe Arg Gly Cys Pro Met Phe Arg Arg Thr Gly Lys Gly Pro Phe Glu  
 1 5 10 15  
 Asp Val Gln Thr Leu Tyr Glu Glu Glu Thr Ser Ser Pro Ser Ser Tyr  
 20 25 30  
 Ser Pro Tyr Ser Arg Ser Glu Arg Pro Glu Thr Pro Pro Ser Leu Phe  
 35 40 45  
 Asp Asn Pro Lys Ala Ser Glu Ala Arg Pro Leu Asn His Asn Leu Thr  
 50 55 60

Glu	Glu	Ser	Ser	Leu	Pro	Gln	Trp	Ser	Ser	Thr	Pro	Arg	Thr	Glu	Ser
65					70					75					80
Leu	Leu	Pro	Leu	Glu	Glu	Pro	Glu	Thr	Thr	Leu	Gly	Glu	Gly	Val	Thr
				85					90					95	
Phe	Lys	Gly	Glu	Leu	Ala	Phe	Glu	Arg	Leu	Leu	Arg	Ile	Asp	Gly	Thr
			100					105					110		
Phe	Glu	Gly	Ile	Leu	Val	Ser	Lys	Gly	Lys	Ile	Ile	Ile	Gly	Pro	Lys
		115					120					125			
Gly	Val	Val	Lys	Ala	Asp	Ile	Gln	Leu	Gln	Glu	Ala	Ile	Ile	Glu	Gly
	130					135					140				
Val	Val	Glu	Gly	Asn	Ile	Thr	Val	Ser	Gly	Lys	Val	Glu	Leu	Arg	Gly
145					150					155					160
Gly	Ala	Ile	Ile	Lys	Gly	Asp	Ile	Gln	Ala	Asn	Thr	Leu	Cys	Val	Asp
				165					170					175	
Glu	Gly	Val	Arg	Ile	Leu	Gly	Tyr	Leu	Ala	Ile	Ala	Gly	Ile	Thr	Asp
			180					185					190		
His	Ser	Glu	Arg	Glu	Arg	Asp	Leu								
		195					200								

<210> 428

<211> 192

<212> PRT

<213> Chlamydia pneumoniae

<400> 428

Met	Val	Leu	Phe	Ser	Leu	Leu	Phe	Pro	Lys	Leu	Cys	Tyr	Gly	Cys	Gln
1				5					10					15	
Ala	Pro	Gly	Ala	Tyr	Phe	Cys	Ser	Asn	Cys	Leu	Glu	Lys	Leu	Leu	Val
			20					25					30		
Glu	Asp	Arg	Glu	Gly	Arg	Cys	Leu	His	Cys	Phe	Arg	Tyr	Leu	Gly	Ser
		35					40					45			
Ser	Glu	Thr	Arg	Leu	Cys	Ser	Gln	Cys	Ser	Pro	Ser	Ser	Gln	Leu	Gln
	50					55				60					
Ala	Phe	Ser	Leu	Tyr	Leu	Pro	Ser	Gln	Thr	Ala	Leu	Ser	Val	Tyr	Ala
65					70					75					80
Arg	Ala	Cys	Glu	Gly	Lys	Arg	Pro	Ala	Leu	Gln	Phe	Phe	Ser	Lys	Ser
				85					90					95	
Ile	Ala	Phe	Glu	Leu	Ala	Ser	Leu	Asp	Glu	Thr	Pro	Ser	Cys	Ile	Ala
			100					105					110		
Tyr	Ile	Thr	Ser	Thr	Ile	Ser	Arg	Lys	Ile	Val	Val	Glu	Val	Ala	Lys
		115					120					125			
Leu	Glu	Lys	Leu	Leu	Arg	Ile	Pro	Leu	Trp	Pro	Trp	Leu	Pro	Lys	Lys
	130					135					140				
Arg	Gln	Ile	Glu	Lys	Leu	Pro	Lys	Gly	Glu	Gly	Ile	Cys	Phe	Leu	Ser
145					150					155					160
Ala	Tyr	Pro	Leu	Ser	Gln	Lys	Trp	Met	Gln	Thr	Ile	Val	Gly	Gly	Ser
				165					170					175	
Ala	Ser	Pro	Leu	Val	Ser	Ile	Ser	Leu	Phe	Leu	Ser	Gln	Asn	Asp	Gln
			180					185					190		

<210> 429

<211> 521

<212> PRT

<213> Chlamydia pneumoniae

<400> 429

Ala	Val	Cys	Tyr	Val	Phe	Glu	Arg	Val	Glu	Ala	Ser	Thr	Phe	Leu	Ser
1				5					10					15	
Ile	Thr	Met	Leu	Lys	Lys	Phe	Ile	Asn	Ser	Leu	Trp	Lys	Leu	Cys	Gln
			20					25					30		



Val Arg Lys Tyr Arg Lys Arg Gly Val  
515 520

<210> 430  
<211> 321  
<212> PRT  
<213> Chlamydia pneumoniae

<400> 430  
Asn Met Ser Lys Gly Ser Ser Lys His Thr Val Arg Ile Asn Gln Thr  
1 5 10 15  
Trp Tyr Ile Val Ser Phe Ile Leu Gly Leu Ser Leu Phe Ala Gly Val  
20 25 30  
Leu Leu Ser Thr Ile Tyr Tyr Val Leu Ser Pro Ile Gln Gln Ala  
35 40 45  
Ala Thr Phe Asp Arg Asn Lys Gln Met Leu Leu Ala Ala His Ile Leu  
50 55 60  
Asp Phe Lys Gly Arg Phe Gln Ile Gln Glu Lys Lys Glu Trp Val Pro  
65 70 75 80  
Ala Thr Phe Asp Lys Lys Thr Gln Leu Leu Glu Val Ala Thr Lys Lys  
85 90 95  
Val Ser Glu Val Ser Tyr Pro Glu Leu Glu Leu Tyr Ala Glu Arg Phe  
100 105 110  
Val Arg Pro Leu Leu Thr Asp Ala Gln Gly Lys Val Phe Ser Phe Glu  
115 120 125  
Glu Lys Asn Leu Asn Pro Ile Glu Phe Phe Glu Lys Tyr Gln Glu Ser  
130 135 140  
Pro Pro Cys Gln Gln Ser Pro Leu Pro Phe Tyr Val Ile Leu Glu Asn  
145 150 155 160  
Thr Ser Arg Thr Glu Asn Met Ser Gly Ala Asp Val Ala Lys Asp Leu  
165 170 175  
Ser Thr Val Gln Ala Leu Ile Phe Pro Ile Ser Gly Phe Gly Leu Trp  
180 185 190  
Gly Pro Ile His Gly Tyr Leu Gly Val Lys Asn Asp Gly Asp Thr Val  
195 200 205  
Leu Gly Thr Ala Trp Tyr Gln Gln Gly Glu Thr Pro Gly Leu Gly Ala  
210 215 220  
Asn Ile Thr Asn Pro Glu Trp Gln Glu Gln Phe Tyr Gly Lys Lys Ile  
225 230 235 240  
Phe Leu Gln Asp Ser Ser Gly Thr Thr Asn Phe Ala Thr Thr Asp Leu  
245 250 255  
Gly Leu Glu Val Val Lys Gly Ser Val Arg Thr Thr Leu Gly Asp Ser  
260 265 270  
Pro Lys Ala Leu Ser Ala Ile Asp Gly Ile Ser Gly Ala Thr Leu Thr  
275 280 285  
Cys Asn Gly Val Thr Glu Ala Tyr Val Gln Ser Leu Ala Cys Tyr Arg  
290 295 300  
Gln Leu Leu Ile Asn Phe Ser Asn Leu Thr His Glu Lys Lys Thr Gly  
305 310 315 320  
Glu

<210> 431  
<211> 218  
<212> PRT  
<213> Chlamydia pneumoniae

<400> 431  
Lys Glu Asn Arg Arg Met Thr Ser Lys Lys Ser Tyr Lys Ser Tyr Phe  
1 5 10 15



Glu Thr Glu Val Val Glu Asn Thr Thr Asn Pro Leu Lys Glu Ser Ser  
 225 230 235 240  
 Ser Lys His Gln Pro Ser Ile Ser Lys Ala Arg Thr Gln Arg Arg Ser  
 245 250 255  
 Leu

<210> 433  
 <211> 113  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 433  
 Lys Ile Met Thr Thr Leu Pro Lys Tyr Val Pro Arg Ser Arg Gln Asn  
 1 5 10 15  
 Pro Asp Thr Leu Thr Phe Leu Lys Arg Tyr Ser Ser Val Leu Leu His  
 20 25 30  
 Ser Glu Asn Ser Leu Ser Tyr Arg Ile Phe Ala Lys Val Leu Ala Ile  
 35 40 45  
 Leu Leu Thr Ser Leu Ala Val Ala Phe Ala Val Thr Leu Phe Ser Cys  
 50 55 60  
 Glu Gly Ser Gln Leu Arg Leu Cys Ala Leu Tyr Ile Gly Ile Ala Leu  
 65 70 75 80  
 Ala Ile Cys Val Leu Leu Thr Ile Val Val Tyr Cys Ile Ala Ser Lys  
 85 90 95  
 Ile Ala Thr Ala Cys Lys Lys Pro Pro Ser Ile Ser Arg Ile Glu Ile  
 100 105 110  
 Val

<210> 434  
 <211> 108  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 434  
 Lys Ile His Gln Asn Tyr Ser Met Asp Pro Ala Ser Pro Val Ala Pro  
 1 5 10 15  
 His Val Leu Gln Asp His Val Gln Leu Ser Ser Glu Glu Leu Ser Ala  
 20 25 30  
 Leu Ser Ser Gly Val Ser Arg Val Lys Lys Leu Thr Ile Ala Ile Met  
 35 40 45  
 Val Leu Ser Leu Ile Ala Ile Ser Leu Val Ala Cys Gly Leu Phe Leu  
 50 55 60  
 Thr Gly Ser Ala Pro Leu Gln Leu Ser Ile Trp Ile Ala Ala Ser Cys  
 65 70 75 80  
 Ile Thr Leu Ser Met Leu Val Cys Ala Cys Trp Arg Tyr Lys Ile Ser  
 85 90 95  
 Asn Ala Leu Glu Lys Thr Lys Val Ala His Glu Ser  
 100 105

<210> 435  
 <211> 133  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 435  
 Arg Thr Phe Arg Ile Leu Tyr Gly Thr Leu Tyr Arg Thr Gly Ser Arg  
 1 5 10 15  
 Lys Val Met Trp Tyr Ser Asp Tyr His Val Trp Ile Leu Pro Val His  
 20 25 30



Glu	Arg	Val	Val	Arg	Leu	Gly	Leu	Thr	Glu	Lys	Met	Gln	Lys	Asn	Leu
		35					40					45			
Gly	Ala	Ile	Leu	His	Val	Asp	Leu	Pro	Ser	Val	Gly	Ser	Leu	Cys	Lys
	50					55					60				
Glu	Gly	Glu	Val	Leu	Val	Ile	Leu	Glu	Ser	Ser	Lys	Ser	Ala	Ile	Glu
65					70					75					80
Val	Leu	Ser	Pro	Val	Ser	Gly	Glu	Val	Ile	Asp	Ile	Asn	Leu	Asp	Leu
				85					90					95	
Val	Asp	Asn	Pro	Gln	Lys	Ile	Asn	Glu	Ala	Pro	Glu	Gly	Glu	Gly	Trp
			100					105					110		
Leu	Ala	Val	Val	Arg	Leu	Asp	Gln	Asp	Trp	Asp	Pro	Ser	Asn	Leu	Ser
		115					120					125			
Leu	Met	Asp	Glu	Glu											
		130													

<210> 436

<211> 732

<212> PRT

<213> Chlamydia pneumoniae

<400> 436

Arg	Pro	Trp	Val	Arg	Ile	Tyr	Gln	Gln	Asp	Leu	Phe	Cys	Arg	Leu	Cys
1				5					10					15	
Arg	Asp	Pro	Ala	Trp	Phe	Phe	Ser	Leu	Leu	Ser	Phe	Thr	Leu	Arg	Phe
			20					25					30		
Tyr	Cys	Leu	Gly	Arg	Gly	Trp	Thr	Leu	Leu	Ser	Phe	Phe	Tyr	Lys	His
		35					40					45			
Gln	Lys	Lys	Phe	Ile	Gly	Ile	Val	Ile	Ala	Val	Val	Cys	Val	Ser	Gly
	50					55					60				
Ile	Gly	Val	Gly	Trp	Gly	Arg	Phe	Ser	Arg	Lys	Gly	Ser	Ala	Glu	Ser
65					70				75					80	
Thr	Ser	Arg	Arg	Thr	Val	Phe	Thr	Thr	Ala	Ser	Gly	Lys	Arg	Tyr	Val
				85					90					95	
Glu	Lys	Asp	Phe	Met	Ala	Met	Lys	Lys	Phe	Phe	Ala	His	Glu	Ala	Tyr
			100					105					110		
Pro	Phe	Thr	Gly	Asn	Pro	Arg	Ala	Trp	Asn	Phe	Ile	Asn	Glu	Gly	Leu
		115					120					125			
Leu	Thr	Asp	Tyr	Phe	Leu	Thr	Thr	Arg	Val	Gly	Glu	Lys	Leu	Phe	Leu
	130					135					140				
Lys	Val	Tyr	His	Pro	Gly	Glu	Lys	Ile	Phe	Ser	Lys	Glu	Lys	Ala	Tyr
145					150					155				160	
Gln	Pro	Tyr	Arg	Arg	Phe	Asp	Ala	Pro	Phe	Ile	Ser	Ser	Glu	Glu	Val
			165					170						175	
Trp	Lys	Ser	Ser	Ala	Pro	Gln	Leu	Leu	Glu	Ile	Leu	Lys	Val	Phe	Gln
		180					185						190		
Gln	Ile	Glu	Asn	Pro	Ile	Ser	Lys	Glu	Gly	Phe	Leu	Ala	Arg	Ala	Lys
	195						200					205			
Leu	Phe	Leu	Glu	Glu	Arg	Arg	Phe	Pro	His	Tyr	Val	Leu	Arg	Gln	Met
	210					215					220				
Leu	Glu	Tyr	Arg	Arg	Gln	Met	Phe	Ala	Leu	Pro	Pro	Asp	Glu	Ala	Leu
225					230					235				240	
Ser	Arg	Gly	Lys	Asp	Leu	Arg	Leu	Phe	Gly	Tyr	Gln	Thr	Ile	Gln	Asp
			245						250					255	
Trp	Phe	Gly	Asp	Ala	Tyr	Leu	Ser	Ala	Ala	Val	Glu	Leu	Leu	Ile	Arg
		260						265					270		
Phe	Ile	Asp	Glu	Gln	Lys	Lys	Val	Leu	Pro	Arg	Pro	Ser	Lys	Gln	Glu
	275						280					285			
Ala	Arg	Asp	Asp	Phe	Tyr	Asp	Lys	Ala	Lys	His	Ala	Tyr	Thr	Lys	Ile
	290					295					300				
Ser	Lys	Asn	Lys	Glu	Phe	Ser	Leu	Gly	Phe	Glu	Glu	Phe	Val	Asn	Ser
305					310					315					320

Tyr	Phe	Gln	Phe	Leu	Glu	Ile	Ser	Glu	Ser	Glu	Phe	Phe	Asn	Met	Tyr
				325					330					335	
Arg	Asp	Ile	Leu	Leu	Cys	Lys	Arg	Ala	Leu	Leu	Leu	Leu	Gln	Gly	Gly
			340					345					350		
Val	Ser	Phe	Asp	Phe	Gln	Pro	Leu	Thr	Thr	Phe	Phe	Val	Gln	Gly	Lys
		355					360					365			
Asp	Ser	Ile	Gln	Val	Glu	Phe	Phe	Arg	Leu	Pro	Lys	Glu	Tyr	Ser	Phe
	370					375					380				
Lys	Thr	Lys	Gln	Glu	Leu	Lys	Ala	Phe	Glu	Val	Tyr	Leu	Lys	Leu	Val
385					390					395					400
Ser	Leu	Pro	Lys	Ser	Asp	Ser	Leu	Asp	Val	Pro	Asn	Glu	Ile	Leu	Pro
			405						410					415	
Ile	Ala	Thr	Ile	Lys	Ala	Lys	Glu	Pro	Arg	Leu	Val	Gly	Arg	Arg	Phe
			420				425						430		
Ser	Ile	Asp	Tyr	Lys	Arg	Val	Ala	Leu	Gln	Asp	Leu	Ala	Ala	Thr	Val
		435					440					445			
Pro	Met	Val	Glu	Val	Leu	His	Trp	Gln	Gln	Asn	Ser	Glu	His	Phe	Gln
	450					455					460				
Glu	Ile	Leu	Gln	Gln	Phe	Pro	Asp	Val	Glu	Thr	Cys	Gln	Ser	Tyr	Lys
465					470					475					480
Asp	Phe	Gln	His	Leu	Lys	Pro	Ala	Leu	Arg	Asp	Lys	Ile	Ser	Leu	Phe
			485						490					495	
Thr	Arg	Lys	Glu	Ile	Leu	Arg	Ala	Arg	Pro	Glu	Arg	Ile	Leu	Gln	Ser
			500					505					510		
Leu	Gln	Gln	Val	Pro	Lys	Gln	Ser	Gln	Glu	Val	Leu	Leu	Ser	Ala	Gly
			515				520					525			
Lys	Asn	Ser	Ala	Leu	Pro	Gly	Ile	Ser	Asp	Gly	Gln	Gln	Leu	Ala	Lys
	530					535					540				
Val	Leu	Leu	Glu	Asn	Glu	Val	Leu	Asp	Leu	Tyr	Ser	Gln	Asp	Ala	Glu
545					550					555					560
Thr	Tyr	Tyr	Thr	Ile	Ile	Val	Asn	Ser	Ser	Phe	Glu	Lys	Glu	Glu	Val
			565						570					575	
Leu	Pro	Tyr	Arg	Glu	Val	Leu	Lys	Arg	Asp	Leu	Ala	Ser	Gln	Leu	Leu
			580					585					590		
Thr	Ser	His	Gly	His	Leu	Val	Asp	Met	Glu	Arg	Leu	Glu	Ser	Ala	Leu
		595					600					605			
Arg	Thr	Arg	Tyr	Pro	Gly	Glu	Glu	Gly	Ala	Ser	Leu	Trp	Gln	Arg	Arg
	610				615						620				
Leu	Trp	Lys	Val	Val	Glu	Asn	His	Arg	Leu	Gly	Arg	His	Leu	Glu	Gly
625					630					635					640
Ser	Phe	Ser	Trp	Ser	Leu	Asp	Arg	Ser	Leu	Lys	Thr	Phe	Ser	Arg	Gly
			645					650						655	
Asp	Lys	Glu	Leu	Pro	Gln	Glu	Phe	Asp	Arg	Ile	Phe	Ser	Met	Lys	Val
			660					665					670		
Gly	Asp	Tyr	Ser	Ser	Val	Phe	Met	Ser	Pro	Asn	Glu	Gly	Pro	Cys	Tyr
	675						680					685			
Tyr	Gln	Cys	Leu	Ser	His	Leu	Leu	Tyr	Asp	Arg	Pro	Ala	Ser	Val	Asp
	690					695					700				
Lys	Leu	Phe	Leu	Ala	Lys	Ser	Gln	Leu	Asp	Glu	Glu	Leu	Leu	Gly	Ser
705					710					715					720
Tyr	Met	Glu	Arg	Phe	Ile	Glu	Gln	Gly	Val	Val	Arg				
				725					730						

<210> 437

<211> 478

<212> PRT

<213> Chlamydia pneumoniae

<400> 437

Gly	Val	Met	Met	Ser	Arg	Leu	Arg	Phe	Arg	Leu	Ala	Ala	Leu	Gly	Ile
1				5					10					15	

Phe	Phe	Ile	Leu	Leu	Val	Pro	Asn	Ser	Val	Ser	Ala	Lys	Thr	Ile	Val	20	25	30
Ala	Ser	Asp	Lys	Glu	Lys	Val	Gly	Val	Leu	Val	Tyr	Asp	Asn	Ser	Val	35	40	45
Glu	Ala	Phe	Gln	Gln	Ile	Leu	Asp	Cys	Ile	Asp	His	Ala	Asn	Phe	Tyr	50	55	60
Val	Glu	Leu	Cys	Pro	Cys	Met	Thr	Gly	Gly	Arg	Thr	Leu	Lys	Glu	Met	65	70	75
Val	Asp	His	Leu	Glu	Ala	Arg	Met	Asp	Leu	Val	Pro	Glu	Leu	Cys	Ser	85	90	95
Tyr	Ile	Ile	Ile	Gln	Pro	Thr	Phe	Thr	Asp	Ala	Glu	Asp	Gln	Lys	Leu	100	105	110
Leu	Lys	Ala	Leu	Lys	Glu	Arg	His	Pro	Asn	Arg	Phe	Phe	Tyr	Val	Phe	115	120	125
Thr	Gly	Cys	Pro	Pro	Ser	Thr	Ser	Ile	Leu	Ala	Pro	Asn	Val	Ile	Glu	130	135	140
Met	His	Ile	Lys	Leu	Ser	Ile	Ile	Asp	Gly	Lys	Tyr	Cys	Ile	Leu	Gly	145	150	155
Gly	Thr	Asn	Phe	Glu	Glu	Phe	Met	Cys	Thr	Pro	Gly	Asp	Glu	Val	Pro	165	170	175
Glu	Lys	Val	Asp	Asn	Pro	Arg	Leu	Phe	Val	Ser	Gly	Val	Arg	Arg	Pro	180	185	190
Leu	Ala	Phe	Arg	Asp	Gln	Asp	Ile	Met	Leu	Arg	Ser	Thr	Ala	Phe	Gly	195	200	205
Leu	Gln	Leu	Arg	Glu	Glu	Tyr	His	Lys	Gln	Phe	Ala	Met	Trp	Asp	Tyr	210	215	220
Tyr	Ala	His	His	Met	Trp	Phe	Ile	Asp	Asn	Pro	Glu	Gln	Phe	Ala	Gly	225	230	235
Ala	Cys	Pro	Pro	Leu	Thr	Leu	Glu	Gln	Ala	Glu	Glu	Thr	Val	Phe	Pro	245	250	255
Gly	Phe	Asp	Lys	His	Glu	Asp	Leu	Val	Leu	Val	Asp	Ser	Ser	Lys	Ile	260	265	270
Arg	Ile	Val	Leu	Gly	Gly	Pro	His	Asp	Lys	Gln	Pro	Asn	Pro	Val	Thr	275	280	285
Gln	Glu	Tyr	Leu	Lys	Leu	Ile	Gln	Gly	Ala	Arg	Ser	Ser	Val	Lys	Leu	290	295	300
Ala	His	Met	Tyr	Phe	Ile	Pro	Lys	Asp	Glu	Leu	Leu	Asn	Ala	Leu	Val	305	310	315
Asp	Val	Ser	His	Asn	His	Gly	Val	His	Leu	Ser	Leu	Ile	Thr	Asn	Gly	325	330	335
Cys	His	Glu	Leu	Ser	Pro	Ala	Ile	Thr	Gly	Pro	Tyr	Ala	Trp	Gly	Asn	340	345	350
Arg	Ile	Asn	Tyr	Phe	Ala	Leu	Leu	Tyr	Gly	Lys	Arg	Tyr	Pro	Leu	Trp	355	360	365
Lys	Lys	Trp	Phe	Cys	Glu	Lys	Leu	Lys	Pro	Tyr	Glu	Arg	Val	Ser	Ile	370	375	380
Tyr	Glu	Phe	Ala	Ile	Trp	Glu	Thr	Gln	Leu	His	Lys	Lys	Cys	Met	Ile	385	390	395
Ile	Asp	Asp	Glu	Ile	Phe	Val	Ile	Gly	Ser	Tyr	Asn	Phe	Gly	Lys	Lys	405	410	415
Ser	Asp	Ala	Phe	Asp	Tyr	Glu	Ser	Ile	Val	Val	Ile	Glu	Ser	Pro	Glu	420	425	430
Val	Ala	Ala	Lys	Ala	Asn	Lys	Val	Phe	Asn	Lys	Asp	Ile	Gly	Leu	Ser	435	440	445
Ile	Pro	Val	Ser	His	Gly	Asp	Ile	Phe	Ser	Trp	Tyr	Phe	His	Ser	Val	450	455	460
His	His	Thr	Leu	Gly	His	Leu	Gln	Leu	Thr	Tyr	Met	Pro	Ala			465	470	475

<210> 438  
 <211> 244  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 438  
 Phe Tyr Val Cys Tyr Met Lys Val Arg Ile Val Asp Ser Gly Lys Ser  
 1 5 10 15  
 Ser Ala Ala Ser His Met Ala Lys Asp Arg Asp Leu Leu Glu Ser Leu  
 20 25 30  
 Gln Asp Gly Glu Leu Ile Leu His Leu Tyr Glu Trp Glu Asn Pro Cys  
 35 40 45  
 Ser Leu Thr Tyr Gly His Phe Met Arg Pro Glu Lys Phe Leu Leu Ser  
 50 55 60  
 Asn Tyr Ala Asp Leu Gly Leu Asp Ala Ala Val Arg Pro Thr Gly Gly  
 65 70 75 80  
 Gly Phe Val Phe His Lys Gly Asp Tyr Ala Phe Ser Val Leu Met Ser  
 85 90 95  
 Ala Thr His Pro Ser Tyr Ser Ser Ser Val Leu Glu Asn Tyr His Thr  
 100 105 110  
 Val Asn Ser Phe Val Ala Lys Val Leu Glu Lys Val Phe Arg Ile Gln  
 115 120 125  
 Gly Met Leu Ala Pro Glu Asp Glu Asn Ser Ser Ser Arg Asp Ser Gly  
 130 135 140  
 Asn Phe Cys Met Ala Lys Thr Ser Lys Tyr Asp Val Leu Phe Gly Asp  
 145 150 155 160  
 Lys Lys Ile Gly Gly Ala Ala Gln Arg Lys Val Gln Gln Gly Phe Leu  
 165 170 175  
 His Gln Gly Ser Leu Phe Leu Ser Gly Ser Ser Ser Glu Phe Tyr Gln  
 180 185 190  
 Arg Phe Leu Lys Pro Glu Val Leu Glu Glu Ile Ile Glu Gln Ile Gln  
 195 200 205  
 Ile His Ala Phe Phe Pro Leu Gly Leu Glu Ala Ala Asp Glu Val Leu  
 210 215 220  
 Gln Glu Ala Arg Gln Gln Val Lys Glu Ala Phe Ile Lys Leu Phe Cys  
 225 230 235 240  
 Gly Glu Gly Leu

<210> 439  
 <211> 847  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 439  
 Val Phe Met Phe Glu Lys Phe Thr Asn Arg Ala Lys Gln Val Ile Lys  
 1 5 10 15  
 Leu Ala Lys Lys Glu Ala Gln Arg Leu Asn His Asn Tyr Leu Gly Thr  
 20 25 30  
 Glu His Ile Leu Leu Gly Leu Leu Lys Leu Gly Gln Gly Val Ala Val  
 35 40 45  
 Asn Val Leu Arg Asn Leu Gly Ile Asp Phe Asp Thr Ala Arg Gln Glu  
 50 55 60  
 Val Glu Arg Leu Ile Gly Tyr Gly Pro Glu Ile Gln Val Tyr Gly Asp  
 65 70 75 80  
 Pro Ala Leu Thr Gly Arg Val Lys Lys Ser Phe Glu Ser Ala Asn Glu  
 85 90 95  
 Glu Ala Ser Leu Leu Glu His Asn Tyr Val Gly Thr Glu His Leu Leu  
 100 105 110  
 Leu Gly Ile Leu His Gln Ser Asp Ser Val Ala Leu Gln Val Leu Glu  
 115 120 125

Asn	Leu	His	Ile	Asp	Pro	Arg	Glu	Val	Arg	Lys	Glu	Ile	Leu	Arg	Glu	130	135	140
Leu	Glu	Thr	Phe	Asn	Leu	Gln	Leu	Pro	Pro	Ser	Ser	Ser	Ser	Ser	Ser	145	150	155
Ser	Ser	Ser	Arg	Ser	Asn	Pro	Ser	Ser	Ser	Lys	Ser	Pro	Leu	Gly	His	165	170	175
Ser	Leu	Gly	Ser	Asp	Lys	Asn	Glu	Lys	Leu	Ser	Ala	Leu	Lys	Ala	Tyr	180	185	190
Gly	Tyr	Asp	Leu	Thr	Glu	Met	Val	Arg	Glu	Ser	Lys	Leu	Asp	Pro	Val	195	200	205
Ile	Gly	Arg	Ser	Ser	Glu	Val	Glu	Arg	Leu	Ile	Leu	Ile	Leu	Cys	Arg	210	215	220
Arg	Arg	Lys	Asn	Asn	Pro	Val	Leu	Ile	Gly	Glu	Ala	Gly	Val	Gly	Lys	225	230	235
Thr	Ala	Ile	Val	Glu	Gly	Leu	Ala	Gln	Lys	Ile	Ile	Leu	Asn	Glu	Val	245	250	255
Pro	Asp	Ala	Leu	Arg	Lys	Lys	Arg	Leu	Ile	Thr	Leu	Asp	Leu	Ala	Leu	260	265	270
Met	Ile	Ala	Gly	Thr	Lys	Tyr	Arg	Gly	Gln	Phe	Glu	Glu	Arg	Ile	Lys	275	280	285
Ala	Val	Met	Asp	Glu	Val	Arg	Lys	His	Gly	Asn	Ile	Leu	Leu	Phe	Ile	290	295	300
Asp	Glu	Leu	His	Thr	Ile	Val	Gly	Ala	Gly	Ala	Ala	Glu	Gly	Ala	Ile	305	310	315
Asp	Ala	Ser	Asn	Ile	Leu	Lys	Pro	Ala	Leu	Ala	Arg	Gly	Glu	Ile	Gln	325	330	335
Cys	Ile	Gly	Ala	Thr	Thr	Ile	Asp	Glu	Tyr	Arg	Lys	His	Ile	Glu	Lys	340	345	350
Asp	Ala	Ala	Leu	Glu	Arg	Arg	Phe	Gln	Lys	Ile	Val	Val	His	Pro	Pro	355	360	365
Ser	Val	Asp	Glu	Thr	Ile	Glu	Ile	Leu	Arg	Gly	Leu	Lys	Lys	Lys	Tyr	370	375	380
Glu	Glu	His	His	Asn	Val	Phe	Ile	Thr	Glu	Glu	Ala	Leu	Lys	Ala	Ala	385	390	395
Ala	Thr	Leu	Ser	Asp	Gln	Tyr	Val	His	Gly	Arg	Phe	Leu	Pro	Asp	Lys	405	410	415
Ala	Ile	Asp	Leu	Leu	Asp	Glu	Ala	Gly	Ala	Arg	Val	Arg	Val	Asn	Thr	420	425	430
Met	Gly	Gln	Pro	Thr	Asp	Leu	Met	Lys	Leu	Glu	Ala	Glu	Ile	Glu	Asn	435	440	445
Thr	Lys	Leu	Ala	Lys	Glu	Gln	Ala	Ile	Gly	Thr	Gln	Glu	Tyr	Glu	Lys	450	455	460
Ala	Ala	Gly	Leu	Arg	Asp	Glu	Glu	Lys	Lys	Leu	Arg	Glu	Arg	Leu	Gln	465	470	475
Ser	Met	Lys	Gln	Glu	Trp	Glu	Asn	His	Lys	Glu	Glu	His	Gln	Val	Pro	485	490	495
Val	Asp	Glu	Glu	Ala	Val	Ala	Gln	Val	Val	Ser	Leu	Gln	Thr	Gly	Ile	500	505	510
Pro	Ser	Ala	Arg	Leu	Thr	Glu	Ala	Glu	Ser	Glu	Lys	Leu	Leu	Lys	Leu	515	520	525
Glu	Asp	Thr	Leu	Arg	Arg	Lys	Val	Ile	Gly	Gln	Asn	Asp	Ala	Val	Thr	530	535	540
Ser	Ile	Cys	Arg	Ala	Ile	Arg	Arg	Ser	Arg	Thr	Gly	Ile	Lys	Asp	Pro	545	550	555
Asn	Arg	Pro	Thr	Gly	Ser	Phe	Leu	Phe	Leu	Gly	Pro	Thr	Gly	Val	Gly	565	570	575
Lys	Ser	Leu	Leu	Ala	Gln	Gln	Ile	Ala	Ile	Glu	Met	Phe	Gly	Gly	Glu	580	585	590
Asp	Ala	Leu	Ile	Gln	Val	Asp	Met	Ser	Glu	Tyr	Met	Glu	Lys	Phe	Ala	595	600	605

Ala	Thr	Lys	Met	Met	Gly	Ser	Pro	Pro	Gly	Tyr	Val	Gly	His	Glu	Glu
610						615					620				
Gly	Gly	His	Leu	Thr	Glu	Gln	Val	Arg	Arg	Arg	Pro	Tyr	Cys	Val	Val
625					630					635					640
Leu	Phe	Asp	Glu	Ile	Glu	Lys	Ala	His	Pro	Asp	Ile	Met	Asp	Leu	Met
				645					650					655	
Leu	Gln	Ile	Leu	Glu	Gln	Gly	Arg	Leu	Thr	Asp	Ser	Phe	Gly	Arg	Lys
			660					665					670		
Val	Asp	Phe	Arg	His	Ala	Ile	Ile	Ile	Met	Thr	Ser	Asn	Leu	Gly	Ala
		675				680						685			
Asp	Leu	Ile	Arg	Lys	Ser	Gly	Glu	Ile	Gly	Phe	Gly	Leu	Lys	Ser	His
	690					695					700				
Met	Asp	Tyr	Lys	Val	Ile	Gln	Glu	Lys	Ile	Glu	His	Ala	Met	Lys	Lys
705					710					715					720
His	Leu	Lys	Pro	Glu	Phe	Ile	Asn	Arg	Leu	Asp	Glu	Ser	Val	Ile	Phe
				725					730					735	
Arg	Pro	Leu	Glu	Lys	Glu	Ser	Leu	Ser	Glu	Ile	Ile	His	Leu	Glu	Ile
			740					745					750		
Asn	Lys	Leu	Asp	Ser	Arg	Leu	Lys	Asn	Tyr	Gln	Met	Ala	Leu	Asn	Ile
		755					760					765			
Pro	Asp	Ser	Val	Ile	Ser	Phe	Leu	Val	Thr	Lys	Gly	His	Ser	Pro	Glu
	770					775						780			
Met	Gly	Ala	Arg	Pro	Leu	Arg	Arg	Val	Ile	Glu	Gln	Tyr	Leu	Glu	Asp
785					790					795					800
Pro	Leu	Ala	Glu	Leu	Leu	Lys	Glu	Ser	Cys	Arg	Gln	Glu	Ala	Arg	
				805				810					815		
Lys	Leu	Arg	Ala	Thr	Leu	Val	Glu	Asn	Arg	Val	Ala	Phe	Glu	Arg	Glu
			820					825					830		
Glu	Glu	Glu	Gln	Glu	Ala	Ala	Leu	Pro	Ser	Pro	His	Leu	Glu	Ser	
		835					840						845		

<210> 440

<211> 374

<212> PRT

<213> Chlamydia pneumoniae

<400> 440

Asn	Leu	Thr	Leu	Pro	Met	Arg	Arg	Gln	Val	Arg	Glu	Ile	Met	Gln	Gln
1				5					10					15	
Thr	Val	Ile	Val	Ala	Met	Ser	Gly	Gly	Val	Asp	Ser	Ser	Val	Val	Ala
			20					25					30		
Tyr	Leu	Phe	Lys	Lys	Phe	Thr	Asn	Tyr	Lys	Val	Ile	Gly	Leu	Phe	Met
		35					40					45			
Lys	Asn	Trp	Glu	Glu	Asp	Ser	Glu	Gly	Gly	Leu	Cys	Ser	Ser	Thr	Lys
	50					55					60				
Asp	Tyr	Glu	Asp	Val	Glu	Arg	Val	Cys	Leu	Gln	Leu	Asp	Ile	Pro	Tyr
65					70					75					80
Tyr	Thr	Val	Ser	Phe	Ala	Lys	Glu	Tyr	Arg	Glu	Arg	Val	Phe	Ala	Arg
				85					90					95	
Phe	Leu	Lys	Glu	Tyr	Ser	Leu	Gly	Tyr	Thr	Pro	Asn	Pro	Asp	Ile	Leu
			100					105					110		
Cys	Asn	Arg	Glu	Ile	Lys	Phe	Asp	Leu	Leu	Gln	Lys	Lys	Val	Gln	Glu
		115					120					125			
Leu	Gly	Gly	Asp	Tyr	Leu	Ala	Thr	Gly	His	Tyr	Cys	Arg	Leu	Asn	Thr
	130					135						140			
Glu	Leu	Gln	Glu	Thr	Gln	Leu	Leu	Arg	Gly	Cys	Asp	Pro	Gln	Lys	Asp
145					150					155					160
Gln	Ser	Tyr	Phe	Leu	Ser	Gly	Thr	Pro	Lys	Ser	Ala	Leu	His	Asn	Val
				165					170					175	
Leu	Phe	Pro	Leu	Gly	Glu	Met	Asn	Lys	Thr	Glu	Val	Arg	Ala	Ile	Ala
			180					185						190	

Ala	Gln	Ala	Ala	Leu	Pro	Thr	Ala	Glu	Lys	Lys	Asp	Ser	Thr	Gly	Ile
	195						200					205			
Cys	Phe	Ile	Gly	Lys	Arg	Pro	Phe	Lys	Glu	Phe	Leu	Glu	Lys	Phe	Leu
	210					215					220				
Pro	Asn	Lys	Thr	Gly	Asn	Val	Ile	Asp	Trp	Asp	Thr	Lys	Glu	Ile	Val
225					230					235					240
Gly	Gln	His	Gln	Gly	Ala	His	Tyr	Tyr	Thr	Ile	Gly	Gln	Arg	Arg	Gly
				245					250					255	
Leu	Asp	Leu	Gly	Gly	Ser	Glu	Lys	Pro	Cys	Tyr	Val	Val	Gly	Lys	Asn
			260					265					270		
Ile	Glu	Glu	Asn	Ser	Ile	Tyr	Ile	Val	Arg	Gly	Glu	Asp	His	Pro	Gln
			275				280					285			
Leu	Tyr	Leu	Arg	Glu	Leu	Thr	Ala	Arg	Glu	Leu	Asn	Trp	Phe	Thr	Pro
	290					295					300				
Pro	Lys	Ser	Gly	Cys	His	Cys	Ser	Ala	Lys	Val	Arg	Tyr	Arg	Ser	Pro
305					310					315					320
Asp	Glu	Ala	Cys	Thr	Ile	Asp	Tyr	Ser	Ser	Gly	Asp	Glu	Val	Lys	Val
				325					330					335	
Arg	Phe	Ser	Gln	Pro	Val	Lys	Ala	Val	Thr	Pro	Gly	Gln	Thr	Ile	Ala
			340					345					350		
Phe	Tyr	Gln	Gly	Asp	Thr	Cys	Leu	Gly	Ser	Gly	Val	Ile	Asp	Val	Pro
		355					360					365			
Met	Ile	Pro	Ser	Glu	Gly										
	370														

<210> 441  
 <211> 185  
 <212> PRT  
 <213> Chlamydia pneumoniae

Ile	Ile	Ser	Ser	Asn	Asn	Arg	Val	Leu	Phe	Val	Ser	Ser	Thr	Leu	Asn
1				5					10					15	
Gly	Val	Phe	Pro	Ser	Ser	Leu	Pro	Glu	Glu	Ser	Ala	Asp	Leu	Phe	Ile
			20					25					30		
Thr	Asn	Lys	Glu	Ile	Val	Ala	Leu	Gly	Glu	Lys	Gly	Asn	Val	Phe	Leu
		35					40					45			
Thr	His	Ser	Ile	Pro	Met	His	Ile	Ala	Ala	Ile	Thr	Ile	Leu	Val	Ile
	50					55					60				
Val	Ala	Leu	Ala	Gly	Ile	Ala	Ile	Ile	Cys	Leu	Gly	Cys	Tyr	Ser	Gln
65					70				75						80
Ser	Ile	Leu	Leu	Ile	Ala	Val	Gly	Ile	Val	Leu	Thr	Ile	Leu	Thr	Leu
				85					90					95	
Leu	Cys	Leu	Gln	Ala	Leu	Val	Gly	Phe	Ile	Lys	Phe	Ile	Arg	Gln	Leu
			100					105					110		
Pro	Gln	Gln	Leu	His	Thr	Thr	Val	Gln	Phe	Ile	Arg	Glu	Lys	Ile	Arg
		115					120					125			
Pro	Glu	Ser	Ser	Leu	Gln	Leu	Val	Thr	Asn	Ala	Gln	Arg	Lys	Thr	Thr
	130					135						140			
Gln	Asp	Thr	Leu	Lys	Leu	Tyr	Glu	Glu	Leu	Cys	Asp	Leu	Ser	Gln	Lys
145					150					155					160
Glu	Phe	Lys	Leu	Gln	Ser	Thr	Leu	Tyr	Gln	Lys	Arg	Phe	Glu	Leu	Ser
				165					170					175	
His	Lys	Asn	Glu	Lys	Thr	Asn	Gln	Asn							
		180						185							

<210> 442  
 <211> 220  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 442

Leu	Ala	Thr	Ile	Arg	Gly	Asn	Asn	Met	Ala	Thr	Ser	Val	Ala	Pro	Ser
1				5					10					15	
Pro	Val	Pro	Glu	Ser	Ser	Pro	Leu	Ser	His	Ala	Thr	Glu	Val	Leu	Asn
			20				25						30		
Leu	Pro	Asn	Ala	Tyr	Ile	Thr	Gln	Pro	His	Pro	Ile	Pro	Ala	Ala	Pro
		35					40					45			
Trp	Glu	Thr	Phe	Arg	Ser	Lys	Leu	Ser	Thr	Lys	His	Thr	Leu	Cys	Phe
	50					55					60				
Ala	Leu	Thr	Leu	Leu	Leu	Thr	Leu	Gly	Gly	Thr	Ile	Ser	Ala	Gly	Tyr
65					70					75					80
Ala	Gly	Tyr	Thr	Gly	Asn	Trp	Ile	Ile	Cys	Gly	Ile	Gly	Leu	Gly	Ile
				85					90					95	
Ile	Val	Leu	Thr	Leu	Ile	Leu	Ala	Leu	Leu	Leu	Ala	Ile	Pro	Leu	Lys
			100					105					110		
Asn	Lys	Gln	Thr	Gly	Thr	Lys	Leu	Ile	Asp	Glu	Ile	Ser	Gln	Asp	Ile
		115					120					125			
Ser	Ser	Ile	Gly	Ser	Gly	Phe	Val	Gln	Arg	Tyr	Gly	Leu	Met	Phe	Ser
		130				135					140				
Thr	Ile	Lys	Ser	Val	His	Leu	Pro	Glu	Leu	Thr	Thr	Gln	Asn	Gln	Glu
145					150					155					160
Lys	Thr	Arg	Ile	Leu	Asn	Glu	Ile	Glu	Ala	Lys	Lys	Glu	Ser	Ile	Gln
				165				170						175	
Asn	Leu	Glu	Leu	Lys	Ile	Thr	Glu	Cys	Gln	Asn	Lys	Leu	Ala	Gln	Lys
			180				185						190		
Gln	Pro	Lys	Arg	Lys	Ser	Ser	Gln	Lys	Ser	Phe	Met	Arg	Ser	Ile	Lys
		195					200					205			
His	Leu	Ser	Lys	Asn	Pro	Val	Ile	Leu	Phe	Asp	Cys				
		210				215					220				

<210> 443

<211> 323

<212> PRT

<213> Chlamydia pneumoniae

<400> 443

Arg	Trp	Arg	Ile	Leu	Gln	Asn	Met	Phe	Lys	Leu	Leu	Phe	His	Ile	Ala
1				5					10					15	
Ala	Phe	Ala	Gly	His	Val	Leu	Ser	Thr	Pro	Ile	Phe	Ile	Val	Gln	Asp
			20					25					30		
Ala	Cys	Gly	Ile	Asp	Glu	Glu	Ala	Cys	Lys	Asn	Pro	Pro	Pro	Arg	Pro
		35					40				45				
Phe	Ser	Ala	Gln	Val	Gln	Tyr	Leu	Lys	Val	Asn	Asp	Ala	Lys	Phe	Lys
	50					55					60				
Lys	Leu	Pro	His	Gln	Thr	Ile	Gly	Tyr	Arg	Gln	Tyr	Asp	Gly	Thr	Phe
65				70					75						80
Leu	Cys	Thr	Leu	Pro	Ile	Thr	Glu	His	Ser	Gly	Leu	Leu	Phe	Ser	Thr
			85					90						95	
Gly	Tyr	Ile	Gly	Ala	Asp	Ile	Gln	Trp	Lys	Ser	Ser	Leu	Pro	Ile	Ser
			100				105						110		
Glu	Thr	Asp	Pro	Asn	Gly	Leu	Gly	Trp	Ala	Thr	Phe	Gln	Asp	Thr	Ser
		115					120					125			
Phe	Tyr	Asn	Tyr	Val	Leu	Leu	Ser	Leu	Gly	Ala	Tyr	Thr	Leu	Ser	Leu
		130					135				140				
Lys	Asn	Trp	Gln	Trp	Ser	Ile	Ile	Leu	Ser	Gly	Leu	Val	Asp	Pro	Lys
145					150					155					160
Asn	Ile	Glu	Met	Gly	Tyr	Gly	Leu	Tyr	Gln	Gly	Val	Leu	Ser	Gly	Lys
			165					170						175	
Tyr	Gln	Ala	Thr	Glu	Lys	Leu	Ser	Ala	Ile	Phe	Gly	Val	Ile	Asn	Glu
			180					185					190		



Thr Gly Leu His Gln Glu Lys Ala Trp Pro Leu Val Gly Val Ser Tyr  
 195 200 205  
 Lys Ala Thr Asp Gln Leu Thr Leu Asn Cys Ile Tyr Pro Val Asn Phe  
 210 215 220  
 Ser Ile Asp Tyr Arg Ser Thr Ser Val Cys Asn Leu Gly Leu Ala Tyr  
 225 230 235 240  
 Arg Leu Thr Arg Phe Arg Lys Lys Leu His Lys Asn His Leu Ile Ser  
 245 250 255  
 Ser Arg Gly Ile Phe Glu Tyr Gln Gly Arg Glu Ile Glu Ala Asn Val  
 260 265 270  
 Lys Leu Thr Pro Trp Pro Gly Ser Phe Ile Lys Gly Phe Tyr Gly Trp  
 275 280 285  
 Ser Ile Gly Asn Asp Ile Ser Ile Ala Asp Asp His Asn Asn Asn Lys  
 290 295 300  
 Thr Ser His Thr Phe Lys Thr Ser Ala Phe Phe Gly Gly Ser Ala Val  
 305 310 315 320  
 Met Asn Phe

<210> 444  
 <211> 179  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 444  
 Asn Ile Leu Phe Gln Thr Asp Met Gly Phe Lys Asn Ile Cys Lys Gln  
 1 5 10 15  
 Gly Ser Gln Leu Tyr Leu Asn Gly Ile Phe Pro Glu Arg Ile Leu Ala  
 20 25 30  
 Arg Lys Leu Lys Asn Cys Ala Lys Ser Tyr Pro Arg Thr Ala Leu Thr  
 35 40 45  
 Ile Glu Val Leu Val Ser Ser Val Leu Gly Ala Leu Lys Val Ile Leu  
 50 55 60  
 Ile Pro Cys Ala Ser Thr Tyr Ala Ala Leu Thr Leu Pro Leu Arg Ala  
 65 70 75 80  
 Leu Phe Asn Ala Ile Lys Thr Lys Ser Cys Gln His Leu Ala Ser Tyr  
 85 90 95  
 Ala Met Ala Trp Leu Leu His Ile Leu Thr Ile Ala Val Ile Ile Gly  
 100 105 110  
 Leu Val Phe Ser Leu Val Phe Ile Pro Pro Pro Val Val Phe Ile Ser  
 115 120 125  
 Leu Gly Leu Leu Met Ser Val Thr Thr Ser Val Thr Leu Phe Gln Val  
 130 135 140  
 His Lys Asn Leu Phe Pro Pro Tyr Glu Pro Pro Pro Ser Arg Pro His  
 145 150 155 160  
 Thr Pro Pro Pro Phe Ala Asp Glu Tyr Val Pro Leu Ile Ser Glu Ser  
 165 170 175  
 Tyr Phe Asp

<210> 445  
 <211> 420  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 445  
 Val Asp Ser Met Ser Gln Pro Pro Ile Asn Pro Leu Gly Gln Pro Gln  
 1 5 10 15  
 Val Pro Ala Ala Ser Pro Ser Gly Gln Pro Ser Val Val Lys Arg  
 20 25 30

Leu Lys Thr Ser Ser Thr Gly Leu Phe Lys Arg Phe Ile Thr Ile Pro  
 35 40 45  
 Asp Lys Tyr Pro Lys Met Arg Tyr Val Tyr Asp Thr Gly Ile Ile Ala  
 50 55 60  
 Leu Ala Ala Ile Ala Ile Leu Ser Ile Leu Leu Thr Ala Ser Gly Asn  
 65 70 75 80  
 Ser Leu Met Leu Tyr Ala Leu Ala Pro Ala Leu Ala Leu Gly Ala Leu  
 85 90 95  
 Gly Val Thr Leu Leu Ile Ser Asp Ile Leu Asp Ser Pro Lys Ala Lys  
 100 105 110  
 Lys Ile Gly Glu Ala Ile Thr Ala Ile Val Val Pro Ile Ile Val Leu  
 115 120 125  
 Ala Ile Ala Ala Gly Leu Ile Ala Gly Ala Phe Val Ala Ser Ser Gly  
 130 135 140  
 Thr Met Leu Val Phe Ala Asn Pro Met Phe Val Met Gly Leu Ile Thr  
 145 150 155 160  
 Val Gly Leu Tyr Phe Met Ser Leu Asn Lys Leu Thr Leu Asp Tyr Phe  
 165 170 175  
 Arg Arg Glu His Leu Leu Arg Met Glu Lys Lys Thr Gln Glu Thr Ala  
 180 185 190  
 Glu Pro Ile Leu Val Thr Pro Ser Ala Asp Asp Ala Lys Lys Ile Ala  
 195 200 205  
 Val Glu Lys Lys Lys Asp Leu Ser Ala Ser Ala Arg Met Glu Glu His  
 210 215 220  
 Glu Ala Ser Gln Arg Gln Asp Ala Arg His Arg Arg Ile Gly Arg Glu  
 225 230 235 240  
 Ala Gln Gly Ser Phe Phe Tyr Ser Ser Arg Asn Pro Glu His Arg Arg  
 245 250 255  
 Ser Phe Gly Ser Leu Ser Arg Phe Lys Thr Lys Pro Ser Asp Ala Ala  
 260 265 270  
 Ser Thr Arg Pro Ala Ser Ile Ser Pro Pro Phe Lys Asp Asp Phe Gln  
 275 280 285  
 Pro Tyr His Phe Lys Asp Leu Arg Ser Ser Ser Phe Gly Ser Gly Ala  
 290 295 300  
 Ser Ser Ala Phe Thr Pro Ile Met Pro Ala Ser Ser Arg Ser Pro Asn  
 305 310 315 320  
 Phe Ser Thr Gly Thr Val Leu His Pro Glu Pro Val Tyr Pro Lys Gly  
 325 330 335  
 Gly Lys Glu Pro Ser Ile Pro Arg Val Ser Ser Ser Ser Arg Arg Ser  
 340 345 350  
 Pro Arg Asp Arg Gln Asp Lys Gln Gln Gln Gln Asn Gln Asp Glu  
 355 360 365  
 Glu Gln Lys Gln Gln Ser Lys Lys Lys Ser Gly Lys Ser Asn Gln Ser  
 370 375 380  
 Leu Lys Thr Pro Pro Pro Asp Gly Lys Ser Thr Ala Asn Leu Ser Pro  
 385 390 395 400  
 Ser Asn Pro Phe Ser Asp Gly Tyr Asp Glu Arg Glu Lys Arg Lys His  
 405 410 415  
 Arg Lys Asn Lys  
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<210> 446

<211> 1414

<212> PRT

<213> Chlamydia pneumoniae

<400> 446

Lys Ala Phe Pro Gln Arg His Met Lys Tyr Ser Leu Pro Trp Leu Leu  
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 Thr Ser Ser Ala Leu Val Phe Ser Leu His Pro Leu Met Ala Ala Asn  
 20 25 30

Thr	Asp	Leu	Ser	Ser	Ser	Asp	Asn	Tyr	Glu	Asn	Gly	Ser	Ser	Gly	Ser		
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Ala	Ala	Phe	Thr	Ala	Lys	Glu	Thr	Ser	Asp	Ala	Ser	Gly	Thr	Thr	Tyr		
		50				55					60						
Thr	Leu	Thr	Ser	Asp	Val	Ser	Ile	Thr	Asn	Val	Ser	Ala	Ile	Thr	Pro		
65					70					75					80		
Ala	Asp	Lys	Ser	Cys	Phe	Thr	Asn	Thr	Gly	Gly	Ala	Leu	Ser	Phe	Val		
				85					90					95			
Gly	Ala	Asp	His	Ser	Leu	Val	Leu	Gln	Thr	Ile	Ala	Leu	Thr	His	Asp		
			100					105					110				
Gly	Ala	Ala	Ile	Asn	Asn	Thr	Asn	Thr	Ala	Leu	Ser	Phe	Ser	Gly	Phe		
		115					120					125					
Ser	Ser	Leu	Leu	Ile	Asp	Ser	Ala	Pro	Ala	Thr	Gly	Thr	Ser	Gly	Gly		
		130				135					140						
Lys	Gly	Ala	Ile	Cys	Val	Thr	Asn	Thr	Glu	Gly	Gly	Thr	Ala	Thr	Phe		
145					150					155					160		
Thr	Asp	Asn	Ala	Ser	Val	Thr	Leu	Gln	Lys	Asn	Thr	Ser	Glu	Lys	Asp		
				165					170					175			
Gly	Ala	Ala	Val	Ser	Ala	Tyr	Ser	Ile	Asp	Leu	Ala	Lys	Thr	Thr	Thr		
			180					185					190				
Ala	Ala	Leu	Leu	Asp	Gln	Asn	Thr	Ser	Thr	Lys	Asn	Gly	Gly	Ala	Leu		
		195				200						205					
Cys	Ser	Thr	Ala	Asn	Thr	Thr	Val	Gln	Gly	Asn	Ser	Gly	Thr	Val	Thr		
		210				215						220					
Phe	Ser	Ser	Asn	Thr	Ala	Thr	Asp	Lys	Gly	Gly	Gly	Ile	Tyr	Ser	Lys		
225					230					235					240		
Glu	Lys	Asp	Ser	Thr	Leu	Asp	Ala	Asn	Thr	Gly	Val	Val	Thr	Phe	Lys		
				245					250					255			
Ser	Asn	Thr	Ala	Lys	Thr	Gly	Gly	Ala	Trp	Ser	Ser	Asp	Asp	Asn	Leu		
			260					265					270				
Ala	Leu	Thr	Gly	Asn	Thr	Gln	Val	Leu	Phe	Gln	Glu	Asn	Lys	Thr	Thr		
			275				280					285					
Gly	Ser	Ala	Ala	Gln	Ala	Asn	Asn	Pro	Glu	Gly	Cys	Gly	Gly	Ala	Ile		
		290				295					300						
Cys	Cys	Tyr	Leu	Ala	Thr	Ala	Thr	Asp	Lys	Thr	Gly	Leu	Ala	Ile	Ser		
305					310					315					320		
Gln	Asn	Gln	Glu	Met	Ser	Phe	Thr	Ser	Asn	Thr	Thr	Thr	Ala	Asn	Gly		
				325					330					335			
Gly	Ala	Ile	Tyr	Ala	Thr	Lys	Cys	Thr	Leu	Asp	Gly	Asn	Thr	Thr	Leu		
			340					345					350				
Thr	Phe	Asp	Gln	Asn	Thr	Ala	Thr	Ala	Gly	Cys	Gly	Gly	Ala	Ile	Tyr		
		355					360					365					
Thr	Glu	Thr	Glu	Asp	Phe	Ser	Leu	Lys	Gly	Ser	Thr	Gly	Thr	Val	Thr		
		370				375					380						
Phe	Ser	Thr	Asn	Thr	Ala	Lys	Thr	Gly	Gly	Ala	Leu	Tyr	Ser	Lys	Gly		
385					390					395					400		
Asn	Ser	Ser	Leu	Thr	Gly	Asn	Thr	Asn	Leu	Leu	Phe	Ser	Gly	Asn	Lys		
				405					410					415			
Ala	Thr	Gly	Pro	Ser	Asn	Ser	Ser	Ala	Asn	Gln	Glu	Gly	Cys	Gly	Gly		
			420					425					430				
Ala	Ile	Leu	Ala	Phe	Ile	Asp	Ser	Gly	Ser	Val	Ser	Asp	Lys	Thr	Gly		
			435				440					445					
Leu	Ser	Ile	Ala	Asn	Asn	Gln	Glu	Val	Ser	Leu	Thr	Ser	Asn	Ala	Ala		
					455						460						
Thr	Val	Ser	Gly	Gly	Ala	Ile	Tyr	Ala	Thr	Lys	Cys	Thr	Leu	Thr	Gly		
465					470					475					480		
Asn	Gly	Ser	Leu	Thr	Phe	Asp	Gly	Asn	Thr	Ala	Gly	Thr	Ser	Gly	Gly		
				485					490					495			
Ala	Ile	Tyr	Thr	Glu	Thr	Glu	Asp	Phe	Thr	Leu	Thr	Gly	Ser	Thr	Gly		
			500					505					510				

Thr	Val	Thr	Phe	Ser	Thr	Asn	Thr	Ala	Lys	Thr	Gly	Gly	Ala	Leu	Tyr	
	515						520					525				
Ser	Lys	Gly	Asn	Asn	Ser	Leu	Ser	Gly	Asn	Thr	Asn	Leu	Leu	Phe	Ser	
	530					535					540					
Gly	Asn	Lys	Ala	Thr	Gly	Pro	Ser	Asn	Ser	Ser	Ala	Asn	Gln	Glu	Gly	
545					550					555					560	
Cys	Gly	Gly	Ala	Ile	Leu	Ser	Phe	Leu	Glu	Ser	Ala	Ser	Val	Ser	Thr	
				565					570					575		
Lys	Lys	Gly	Leu	Trp	Ile	Glu	Asp	Asn	Glu	Asn	Val	Ser	Leu	Ser	Gly	
			580					585					590			
Asn	Thr	Ala	Thr	Val	Ser	Gly	Gly	Ala	Ile	Tyr	Ala	Thr	Lys	Cys	Ala	
		595					600					605				
Leu	His	Gly	Asn	Thr	Thr	Leu	Thr	Phe	Asp	Gly	Asn	Thr	Ala	Glu	Thr	
	610					615					620					
Ala	Gly	Gly	Ala	Ile	Tyr	Thr	Glu	Thr	Glu	Asp	Phe	Thr	Leu	Thr	Gly	
625					630					635					640	
Ser	Thr	Gly	Thr	Val	Thr	Phe	Ser	Thr	Asn	Thr	Ala	Lys	Thr	Ala	Gly	
				645					650					655		
Ala	Leu	His	Thr	Lys	Gly	Asn	Thr	Ser	Phe	Thr	Lys	Asn	Lys	Ala	Leu	
			660					665					670			
Val	Phe	Ser	Gly	Asn	Ser	Ala	Thr	Ala	Thr	Ala	Thr	Thr	Thr	Thr	Asp	
		675					680					685				
Gln	Glu	Gly	Cys	Gly	Gly	Ala	Ile	Leu	Cys	Asn	Ile	Ser	Glu	Ser	Asp	
	690					695					700					
Ile	Ala	Thr	Lys	Ser	Leu	Thr	Leu	Thr	Glu	Asn	Glu	Ser	Leu	Ser	Phe	
705					710					715					720	
Ile	Asn	Asn	Thr	Ala	Lys	Arg	Ser	Gly	Gly	Gly	Ile	Tyr	Ala	Pro	Lys	
				725					730					735		
Cys	Val	Ile	Ser	Gly	Ser	Glu	Ser	Ile	Asn	Phe	Asp	Gly	Asn	Thr	Ala	
			740					745					750			
Glu	Thr	Ser	Gly	Gly	Ala	Ile	Tyr	Ser	Lys	Asn	Leu	Ser	Ile	Thr	Ala	
		755					760					765				
Asn	Gly	Pro	Val	Ser	Phe	Thr	Asn	Asn	Ser	Gly	Gly	Lys	Gly	Gly	Ala	
	770					775					780					
Ile	Tyr	Ile	Ala	Asp	Ser	Gly	Glu	Leu	Ser	Leu	Glu	Ala	Ile	Asp	Gly	
785					790					795					800	
Asp	Ile	Thr	Phe	Ser	Gly	Asn	Arg	Ala	Thr	Glu	Gly	Thr	Ser	Thr	Pro	
				805					810					815		
Asn	Ser	Ile	His	Leu	Gly	Ala	Gly	Ala	Lys	Ile	Thr	Lys	Leu	Ala	Ala	
			820					825					830			
Ala	Pro	Gly	His	Thr	Ile	Tyr	Phe	Tyr	Asp	Pro	Ile	Thr	Met	Glu	Ala	
		835					840					845				
Pro	Ala	Ser	Gly	Gly	Thr	Ile	Glu	Glu	Leu	Val	Ile	Asn	Pro	Val	Val	
	850					855					860					
Lys	Ala	Ile	Val	Pro	Pro	Pro	Gln	Pro	Lys	Asn	Gly	Pro	Ile	Ala	Ser	
865					870					875					880	
Val	Pro	Val	Val	Pro	Val	Ala	Pro	Ala	Asn	Pro	Asn	Thr	Gly	Thr	Ile	
				885					890					895		
Val	Phe	Ser	Ser	Gly	Lys	Leu	Pro	Ser	Gln	Asp	Ala	Ser	Ile	Pro	Ala	
			900					905					910			
Asn	Thr	Thr	Thr	Ile	Leu	Asn	Gln	Lys	Ile	Asn	Leu	Ala	Gly	Gly	Asn	
		915					920						925			
Val	Val	Leu	Lys	Glu	Gly	Ala	Thr	Leu	Gln	Val	Tyr	Ser	Phe	Thr	Gln	
		930				935					940					
Gln	Pro	Asp	Ser	Thr	Val	Phe	Met	Asp	Ala	Gly	Thr	Thr	Leu	Glu	Thr	
945					950					955					960	
Thr	Thr	Thr	Asn	Asn	Thr	Asp	Gly	Ser	Ile	Asp	Leu	Lys	Asn	Leu	Ser	
				965					970					975		
Val	Asn	Leu	Asp	Ala	Leu	Asp	Gly	Lys	Arg	Met	Ile	Thr	Ile	Ala	Val	
			980					985					990			

Asn Ser Thr Ser Gly Gly Leu Lys Ile Ser Gly Asp Leu Lys Phe His  
 995 1000 1005  
 Asn Asn Glu Gly Ser Phe Tyr Asp Asn Pro Gly Leu Lys Ala Asn Leu  
 1010 1015 1020  
 Asn Leu Pro Phe Leu Asp Leu Ser Ser Thr Ser Gly Thr Val Asn Leu  
 1025 1030 1035 1040  
 Asp Asp Phe Asn Pro Ile Pro Ser Ser Met Ala Ala Pro Asp Tyr Gly  
 1045 1050 1055  
 Tyr Gln Gly Ser Trp Thr Leu Val Pro Lys Val Gly Ala Gly Gly Lys  
 1060 1065 1070  
 Val Thr Leu Val Ala Glu Trp Gln Ala Leu Gly Tyr Thr Pro Lys Pro  
 1075 1080 1085  
 Glu Leu Arg Ala Thr Leu Val Pro Asn Ser Leu Trp Asn Ala Tyr Val  
 1090 1095 1100  
 Asn Ile His Ser Ile Gln Gln Glu Ile Ala Thr Ala Met Ser Asp Ala  
 1105 1110 1115 1120  
 Pro Ser His Pro Gly Ile Trp Ile Gly Gly Ile Gly Asn Ala Phe His  
 1125 1130 1135  
 Gln Asp Lys Gln Lys Glu Asn Ala Gly Phe Arg Leu Ile Ser Arg Gly  
 1140 1145 1150  
 Tyr Ile Val Gly Gly Ser Met Thr Thr Pro Gln Glu Tyr Thr Phe Ala  
 1155 1160 1165  
 Val Ala Phe Ser Gln Leu Phe Gly Lys Ser Lys Asp Tyr Val Val Ser  
 1170 1175 1180  
 Asp Ile Lys Ser Gln Val Tyr Ala Gly Ser Leu Cys Ala Gln Ser Ser  
 1185 1190 1195 1200  
 Tyr Val Ile Pro Leu His Ser Ser Leu Arg Arg His Val Leu Ser Lys  
 1205 1210 1215  
 Val Leu Pro Glu Leu Pro Gly Glu Thr Pro Leu Val Leu His Gly Gln  
 1220 1225 1230  
 Val Ser Tyr Gly Arg Asn His His Asn Met Thr Thr Lys Leu Ala Asn  
 1235 1240 1245  
 Asn Thr Gln Gly Lys Ser Asp Trp Asp Ser His Ser Phe Ala Val Glu  
 1250 1255 1260  
 Val Gly Gly Ser Leu Pro Val Asp Leu Asn Tyr Arg Tyr Leu Thr Ser  
 1265 1270 1275 1280  
 Tyr Ser Pro Tyr Val Lys Leu Gln Val Val Ser Val Asn Gln Lys Gly  
 1285 1290 1295  
 Phe Gln Glu Val Ala Ala Asp Pro Arg Ile Phe Asp Ala Ser His Leu  
 1300 1305 1310  
 Val Asn Val Ser Ile Pro Met Gly Leu Thr Phe Lys His Glu Ser Ala  
 1315 1320 1325  
 Lys Pro Pro Ser Ala Leu Leu Thr Leu Gly Tyr Ala Val Asp Ala  
 1330 1335 1340  
 Tyr Arg Asp His Pro His Cys Leu Thr Ser Leu Thr Asn Gly Thr Ser  
 1345 1350 1355 1360  
 Trp Ser Thr Phe Ala Thr Asn Leu Ser Arg Gln Ala Phe Phe Ala Glu  
 1365 1370 1375  
 Ala Ser Gly His Leu Lys Leu Leu His Gly Leu Asp Cys Phe Ala Ser  
 1380 1385 1390  
 Gly Ser Cys Glu Leu Arg Ser Ser Arg Ser Tyr Asn Ala Asn Cys  
 1395 1400 1405  
 Gly Thr Arg Tyr Ser Phe  
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<210> 447  
 <211> 947  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 447

Phe	Asn	Phe	Leu	Val	Ser	Lys	Lys	Cys	Leu	Gln	Met	Lys	Ser	Ser	Val
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Ser	Trp	Leu	Phe	Ser	Ser	Ile	Pro	Leu	Phe	Ser	Ser	Leu	Ser	Ile	
		20					25					30			
Val	Ala	Ala	Glu	Val	Thr	Leu	Asp	Ser	Ser	Asn	Asn	Ser	Tyr	Asp	Gly
	35					40					45				
Ser	Asn	Gly	Thr	Thr	Phe	Thr	Val	Phe	Ser	Thr	Thr	Asp	Ala	Ala	Ala
	50					55					60				
Gly	Thr	Thr	Tyr	Ser	Leu	Leu	Ser	Asp	Val	Ser	Phe	Gln	Asn	Ala	Gly
65					70					75				80	
Ala	Leu	Gly	Ile	Pro	Leu	Ala	Ser	Gly	Cys	Phe	Leu	Glu	Ala	Gly	Gly
			85					90						95	
Asp	Leu	Thr	Phe	Gln	Gly	Asn	Gln	His	Ala	Leu	Lys	Phe	Ala	Phe	Ile
			100					105					110		
Asn	Ala	Gly	Ser	Ser	Ala	Gly	Thr	Val	Ala	Ser	Thr	Ser	Ala	Ala	Asp
	115					120						125			
Lys	Asn	Leu	Leu	Phe	Asn	Asp	Phe	Ser	Arg	Leu	Ser	Ile	Ile	Ser	Cys
	130				135						140				
Pro	Ser	Leu	Leu	Leu	Ser	Pro	Thr	Gly	Gln	Cys	Ala	Leu	Lys	Ser	Val
145					150					155					160
Gly	Asn	Leu	Ser	Leu	Thr	Gly	Asn	Ser	Gln	Ile	Ile	Phe	Thr	Gln	Asn
				165					170					175	
Phe	Ser	Ser	Asp	Asn	Gly	Gly	Val	Ile	Asn	Thr	Lys	Asn	Phe	Leu	Leu
			180					185					190		
Ser	Gly	Thr	Ser	Gln	Phe	Ala	Ser	Phe	Ser	Arg	Asn	Gln	Ala	Phe	Thr
	195					200						205			
Gly	Lys	Gln	Gly	Gly	Val	Val	Tyr	Ala	Thr	Gly	Thr	Ile	Thr	Ile	Glu
	210				215						220				
Asn	Ser	Pro	Gly	Ile	Val	Ser	Phe	Ser	Gln	Asn	Leu	Ala	Lys	Gly	Ser
225					230					235					240
Gly	Gly	Ala	Leu	Tyr	Ser	Thr	Asp	Asn	Cys	Ser	Ile	Thr	Asp	Asn	Phe
			245						250					255	
Gln	Val	Ile	Phe	Asp	Gly	Asn	Ser	Ala	Trp	Glu	Ala	Ala	Gln	Ala	Gln
			260					265					270		
Gly	Gly	Ala	Ile	Cys	Cys	Thr	Thr	Thr	Asp	Lys	Thr	Val	Thr	Leu	Thr
	275					280						285			
Gly	Asn	Lys	Asn	Leu	Ser	Phe	Thr	Asn	Asn	Thr	Ala	Leu	Thr	Tyr	Gly
	290					295					300				
Gly	Ala	Ile	Ser	Gly	Leu	Lys	Val	Ser	Ile	Ser	Ala	Gly	Gly	Pro	Thr
305					310					315					320
Leu	Phe	Gln	Ser	Asn	Ile	Ser	Gly	Ser	Ser	Ala	Gly	Gln	Gly	Gly	Gly
				325					330					335	
Gly	Ala	Ile	Asn	Ile	Ala	Ser	Ala	Gly	Glu	Leu	Ala	Leu	Ser	Ala	Thr
			340					345					350		
Ser	Gly	Asp	Ile	Thr	Phe	Asn	Asn	Gln	Val	Thr	Asn	Gly	Ser	Ser	Thr
		355					360					365			
Ser	Thr	Arg	Asn	Ala	Ile	Asn	Ile	Ile	Asp	Thr	Ala	Lys	Val	Thr	Ser
	370					375						380			
Ile	Arg	Ala	Ala	Thr	Gly	Gln	Ser	Ile	Tyr	Phe	Tyr	Asp	Pro	Ile	Thr
385					390					395					400
Asn	Pro	Gly	Thr	Ala	Ala	Ser	Thr	Asp	Thr	Leu	Asn	Leu	Asn	Leu	Ala
				405					410					415	
Asp	Ala	Asn	Ser	Glu	Ile	Glu	Tyr	Gly	Gly	Ala	Ile	Val	Phe	Ser	Gly
			420					425				430			
Glu	Lys	Leu	Ser	Pro	Thr	Glu	Lys	Ala	Ile	Ala	Ala	Asn	Val	Thr	Ser
		435					440					445			
Thr	Ile	Arg	Gln	Pro	Ala	Val	Leu	Ala	Arg	Gly	Asp	Leu	Val	Leu	Arg
	450					455					460				
Asp	Gly	Val	Thr	Val	Thr	Phe	Lys	Asp	Leu	Thr	Gln	Ser	Pro	Gly	Ser
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711

<210> 448  
 <211> 938  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 448  
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 Tyr Gly Ala Asp Ala Ser Leu Ser Pro Thr Asp Ser Phe Asp Gly Ala  
 35 40 45  
 Gly Gly Ser Thr Phe Thr Pro Lys Ser Thr Ala Asp Ala Asn Gly Thr  
 50 55 60  
 Asn Tyr Val Leu Ser Gly Asn Val Tyr Ile Asn Asp Ala Gly Lys Gly  
 65 70 75 80  
 Thr Ala Leu Thr Gly Cys Cys Phe Thr Glu Thr Thr Gly Asp Leu Thr  
 85 90 95  
 Phe Thr Gly Lys Gly Tyr Ser Phe Ser Phe Asn Thr Val Asp Ala Gly  
 100 105 110  
 Ser Asn Ala Gly Ala Ala Ala Ser Thr Thr Ala Asp Lys Ala Leu Thr  
 115 120 125  
 Phe Thr Gly Phe Ser Asn Leu Ser Phe Ile Ala Ala Pro Gly Thr Thr  
 130 135 140  
 Val Ala Ser Gly Lys Ser Thr Leu Ser Ser Ala Gly Ala Leu Asn Leu  
 145 150 155 160  
 Thr Asp Asn Gly Thr Ile Leu Phe Ser Gln Asn Val Ser Asn Glu Ala  
 165 170 175  
 Asn Asn Asn Gly Gly Ala Ile Thr Thr Lys Thr Leu Ser Ile Ser Gly  
 180 185 190  
 Asn Thr Ser Ser Ile Thr Phe Thr Ser Asn Ser Ala Lys Lys Leu Gly  
 195 200 205  
 Gly Ala Ile Tyr Ser Ser Ala Ala Ser Ile Ser Gly Asn Thr Gly  
 210 215 220  
 Gln Leu Val Phe Met Asn Asn Lys Gly Glu Thr Gly Gly Gly Ala Leu  
 225 230 235 240  
 Gly Phe Glu Ala Ser Ser Ser Ile Thr Gln Asn Ser Ser Leu Phe Phe  
 245 250 255  
 Ser Gly Asn Thr Ala Thr Asp Ala Ala Gly Lys Gly Gly Ala Ile Tyr  
 260 265 270  
 Cys Glu Lys Thr Gly Glu Thr Pro Thr Leu Thr Ile Ser Gly Asn Lys  
 275 280 285  
 Ser Leu Thr Phe Ala Glu Asn Ser Ser Val Thr Gln Gly Gly Ala Ile  
 290 295 300  
 Cys Ala His Gly Leu Asp Leu Ser Ala Ala Gly Pro Thr Leu Phe Ser  
 305 310 315 320  
 Asn Asn Arg Cys Gly Asn Thr Ala Ala Gly Lys Gly Gly Ala Ile Ala  
 325 330 335  
 Ile Ala Asp Ser Gly Ser Leu Ser Leu Ser Ala Asn Gln Gly Asp Ile  
 340 345 350  
 Thr Phe Leu Gly Asn Thr Leu Thr Ser Thr Ser Ala Pro Thr Ser Thr  
 355 360 365  
 Arg Asn Ala Ile Tyr Leu Gly Ser Ser Ala Lys Ile Thr Asn Leu Arg  
 370 375 380  
 Ala Ala Gln Gly Gln Ser Ile Tyr Phe Tyr Asp Pro Ile Ala Ser Asn  
 385 390 395 400  
 Thr Thr Gly Ala Ser Asp Val Leu Thr Ile Asn Gln Pro Asp Ser Asn  
 405 410 415  
 Ser Pro Leu Asp Tyr Ser Gly Thr Ile Val Phe Ser Gly Glu Lys Leu  
 420 425 430





Leu Ser Gly Glu Ala Ala Tyr Glu Leu Arg Gly Ser Ala His Ile Tyr  
 915 920 925  
 Asn Val Asp Cys Gly Leu Arg Tyr Ser Phe  
 930 935

<210> 449  
 <211> 937  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 449  
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 1 5 10 15  
 Phe Leu Ile Ser Ser Ser Leu Ala Leu Pro Leu Ser Leu Asn Phe Ser  
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 Ala Phe Ala Ala Val Val Glu Ile Asn Leu Gly Pro Thr Asn Ser Phe  
 35 40 45  
 Ser Gly Pro Gly Thr Tyr Thr Pro Pro Ala Gln Thr Thr Asn Ala Asp  
 50 55 60  
 Gly Thr Ile Tyr Asn Leu Thr Gly Asp Val Ser Ile Thr Asn Ala Gly  
 65 70 75 80  
 Ser Pro Thr Ala Leu Thr Ala Ser Cys Phe Lys Glu Thr Thr Gly Asn  
 85 90 95  
 Leu Ser Phe Gln Gly His Gly Tyr Gln Phe Leu Leu Gln Asn Ile Asp  
 100 105 110  
 Ala Gly Ala Asn Cys Thr Phe Thr Asn Thr Ala Ala Asn Lys Leu Leu  
 115 120 125  
 Ser Phe Ser Gly Phe Ser Tyr Leu Ser Leu Ile Gln Thr Thr Asn Ala  
 130 135 140  
 Thr Thr Gly Thr Gly Ala Ile Lys Ser Thr Gly Ala Cys Ser Ile Gln  
 145 150 155 160  
 Ser Asn Tyr Ser Cys Tyr Phe Gly Gln Asn Phe Ser Asn Asp Asn Gly  
 165 170 175  
 Gly Ala Leu Gln Gly Ser Ser Ile Ser Leu Ser Leu Asn Pro Asn Leu  
 180 185 190  
 Thr Phe Ala Lys Asn Lys Ala Thr Gln Lys Gly Gly Ala Leu Tyr Ser  
 195 200 205  
 Thr Gly Gly Ile Thr Ile Asn Asn Thr Leu Asn Ser Ala Ser Phe Ser  
 210 215 220  
 Glu Asn Thr Ala Ala Asn Asn Gly Gly Ala Ile Tyr Thr Glu Ala Ser  
 225 230 235 240  
 Ser Phe Ile Ser Ser Asn Lys Ala Ile Ser Phe Ile Asn Asn Ser Val  
 245 250 255  
 Thr Ala Thr Ser Ala Thr Gly Gly Ala Ile Tyr Cys Ser Ser Thr Ser  
 260 265 270  
 Ala Pro Lys Pro Val Leu Thr Leu Ser Asp Asn Gly Glu Leu Asn Phe  
 275 280 285  
 Ile Gly Asn Thr Ala Ile Thr Ser Gly Gly Ala Ile Tyr Thr Asp Asn  
 290 295 300  
 Leu Val Leu Ser Ser Gly Gly Pro Thr Leu Phe Lys Asn Asn Ser Ala  
 305 310 315 320  
 Ile Asp Thr Ala Ala Pro Leu Gly Gly Ala Ile Ala Ile Ala Asp Ser  
 325 330 335  
 Gly Ser Leu Ser Leu Ser Ala Leu Gly Gly Asp Ile Thr Phe Glu Gly  
 340 345 350  
 Asn Thr Val Val Lys Gly Ala Ser Ser Ser Gln Thr Thr Thr Arg Asn  
 355 360 365  
 Ser Ile Asn Ile Gly Asn Thr Asn Ala Lys Ile Val Gln Leu Arg Ala  
 370 375 380  
 Ser Gln Gly Asn Thr Ile Tyr Phe Tyr Asp Pro Ile Thr Thr Ser Ile  
 385 390 395 400

Thr	Ala	Ala	Leu	Ser	Asp	Ala	Leu	Asn	Leu	Asn	Gly	Pro	Asp	Leu	Ala			
				405					410					415				
Gly	Asn	Pro	Ala	Tyr	Gln	Gly	Thr	Ile	Val	Phe	Ser	Gly	Glu	Lys	Leu			
			420					425					430					
Ser	Glu	Ala	Glu	Ala	Ala	Glu	Ala	Asp	Asn	Leu	Lys	Ser	Thr	Ile	Gln			
		435					440					445						
Gln	Pro	Leu	Thr	Leu	Ala	Gly	Gly	Gln	Leu	Ser	Leu	Lys	Ser	Gly	Val			
	450					455					460							
Thr	Leu	Val	Ala	Lys	Ser	Phe	Ser	Gln	Ser	Pro	Gly	Ser	Thr	Leu	Leu			
465					470					475					480			
Met	Asp	Ala	Gly	Thr	Thr	Leu	Glu	Thr	Ala	Asp	Gly	Ile	Thr	Ile	Asn			
				485				490						495				
Asn	Leu	Val	Leu	Asn	Val	Asp	Ser	Leu	Lys	Glu	Thr	Lys	Lys	Ala	Thr			
		500						505					510					
Leu	Lys	Ala	Thr	Gln	Ala	Ser	Gln	Thr	Val	Thr	Leu	Ser	Gly	Ser	Leu			
	515						520					525						
Ser	Leu	Val	Asp	Pro	Ser	Gly	Asn	Val	Tyr	Glu	Asp	Val	Ser	Trp	Asn			
	530					535				540								
Asn	Pro	Gln	Val	Phe	Ser	Cys	Leu	Thr	Leu	Thr	Ala	Asp	Asp	Pro	Ala			
545					550				555						560			
Asn	Ile	His	Ile	Thr	Asp	Leu	Ala	Ala	Asp	Pro	Leu	Glu	Lys	Asn	Pro			
				565				570						575				
Ile	His	Trp	Gly	Tyr	Gln	Gly	Asn	Trp	Ala	Leu	Ser	Trp	Gln	Glu	Asp			
		580						585					590					
Thr	Ala	Thr	Lys	Ser	Lys	Ala	Ala	Thr	Leu	Thr	Trp	Thr	Lys	Thr	Gly			
	595					600						605						
Tyr	Asn	Pro	Asn	Pro	Glu	Arg	Arg	Gly	Thr	Leu	Val	Ala	Asn	Thr	Leu			
	610					615					620							
Trp	Gly	Ser	Phe	Val	Asp	Val	Arg	Ser	Ile	Gln	Gln	Leu	Val	Ala	Thr			
625					630					635					640			
Lys	Val	Arg	Gln	Ser	Gln	Glu	Thr	Arg	Gly	Ile	Trp	Cys	Glu	Gly	Ile			
				645					650					655				
Ser	Asn	Phe	Phe	His	Lys	Asp	Ser	Thr	Lys	Ile	Asn	Lys	Gly	Phe	Arg			
		660						665					670					
His	Ile	Ser	Ala	Gly	Tyr	Val	Val	Gly	Ala	Thr	Thr	Thr	Leu	Ala	Ser			
	675						680					685						
Asp	Asn	Leu	Ile	Thr	Ala	Ala	Phe	Cys	Gln	Leu	Phe	Gly	Lys	Asp	Arg			
	690					695					700							
Asp	His	Phe	Ile	Asn	Lys	Asn	Arg	Ala	Ser	Ala	Tyr	Ala	Ala	Ser	Leu			
705					710					715					720			
His	Leu	Gln	His	Leu	Ala	Thr	Leu	Ser	Ser	Pro	Ser	Leu	Leu	Arg	Tyr			
				725					730					735				
Leu	Pro	Gly	Ser	Glu	Ser	Glu	Gln	Pro	Val	Leu	Phe	Asp	Ala	Gln	Ile			
			740					745					750					
Ser	Tyr	Ile	Tyr	Ser	Lys	Asn	Thr	Met	Lys	Thr	Tyr	Tyr	Thr	Gln	Ala			
		755					760					765						
Pro	Lys	Gly	Glu	Ser	Ser	Trp	Tyr	Asn	Asp	Gly	Cys	Ala	Leu	Glu	Leu			
	770					775					780							
Ala	Ser	Ser	Leu	Pro	His	Thr	Ala	Leu	Ser	His	Glu	Gly	Leu	Phe	His			
785					790					795					800			
Ala	Tyr	Phe	Pro	Phe	Ile	Lys	Val	Glu	Ala	Ser	Tyr	Ile	His	Gln	Asp			
				805					810					815				
Ser	Phe	Lys	Glu	Arg	Asn	Thr	Thr	Leu	Val	Arg	Ser	Phe	Asp	Ser	Gly			
			820					825					830					
Asp	Leu	Ile	Asn	Val	Ser	Val	Pro	Ile	Gly	Ile	Thr	Phe	Glu	Arg	Phe			
		835					840					845						
Ser	Arg	Asn	Glu	Arg	Ala	Ser	Tyr	Glu	Ala	Thr	Val	Ile	Tyr	Val	Ala			
	850					855					860							
Asp	Val	Tyr	Arg	Lys	Asn	Pro	Asp	Cys	Thr	Thr	Ala	Leu	Leu	Ile	Asn			
865					870					875					880			

Asn	Thr	Ser	Trp	Lys	Thr	Thr	Gly	Thr	Asn	Leu	Ser	Arg	Gln	Ala	Gly
				885					890					895	
Ile	Gly	Arg	Ala	Gly	Ile	Phe	Tyr	Ala	Phe	Ser	Pro	Asn	Leu	Glu	Val
			900					905					910		
Thr	Ser	Asn	Leu	Ser	Met	Glu	Ile	Arg	Gly	Ser	Ser	Arg	Ser	Tyr	Asn
		915					920					925			
Ala	Asp	Leu	Gly	Gly	Lys	Phe	Gln	Phe							
	930					935									

<210> 450  
 <211> 393  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 450

Phe	Ile	Gln	Pro	Ser	Arg	Arg	Glu	Ile	His	Glu	Trp	Lys	Cys	Ile	Leu
1				5					10					15	
Leu	Gly	Ser	Ser	Leu	Arg	Met	Glu	Met	Met	Ser	Pro	Phe	Gln	Gln	Pro
			20				25						30		
Glu	Gln	Cys	His	Phe	Asp	Val	Val	Gly	Ser	Phe	Leu	Arg	Pro	Glu	Ser
		35				40						45			
Leu	Thr	Arg	Ala	Arg	Ser	Asp	Phe	Glu	Glu	Gly	Arg	Ile	Val	Tyr	Glu
	50					55					60				
Gln	Met	Arg	Val	Val	Glu	Asp	Ala	Ala	Ile	Arg	Asn	Leu	Ile	Lys	Lys
65					70					75				80	
Gln	Thr	Glu	Ala	Gly	Leu	Ile	Phe	Phe	Thr	Asp	Gly	Glu	Phe	Arg	Arg
				85					90					95	
Tyr	Ser	Trp	Asp	Phe	Asp	Phe	Met	Trp	Gly	Phe	His	Gly	Val	Asp	Arg
			100					105					110		
Arg	Arg	Asp	Ser	Asn	Asp	Pro	Glu	Ile	Gly	Val	Tyr	Leu	Lys	Asp	Lys
		115					120					125			
Ile	Ser	Val	Ser	Lys	His	Pro	Phe	Ile	Glu	His	Phe	Glu	Phe	Val	Lys
	130					135					140				
Thr	Phe	Glu	Lys	Gly	Asn	Ala	Lys	Ala	Lys	Gln	Thr	Ile	Pro	Ser	Pro
145					150					155				160	
Ser	Gln	Phe	Phe	His	Glu	Met	Ile	Phe	Ala	Pro	Asn	Leu	Lys	Asn	Thr
				165					170					175	
Arg	Lys	Phe	Tyr	Pro	Thr	Asn	Gln	Glu	Leu	Ile	Asp	Asp	Ile	Val	Phe
			180					185					190		
Tyr	Tyr	Arg	Gln	Val	Ile	Gln	Asp	Leu	Tyr	Ala	Ala	Gly	Cys	Arg	Asn
		195				200						205			
Leu	Gln	Leu	Asp	Asp	Cys	Ala	Trp	Cys	Arg	Leu	Leu	Asp	Ile	Arg	Ala
	210					215					220				
Pro	Ser	Trp	Tyr	Gly	Val	Asp	Ser	His	Asp	Arg	Leu	Gln	Glu	Ile	Leu
225					230				235					240	
Glu	Gln	Phe	Leu	Trp	Ile	His	Asn	Leu	Val	Met	Lys	Asp	Arg	Pro	Glu
				245					250					255	
Asp	Leu	Phe	Val	Ser	Leu	His	Val	Cys	Arg	Gly	Asp	Tyr	Gln	Ala	Glu
			260					265					270		
Phe	Phe	Ser	Arg	Arg	Ala	Tyr	Asp	Ser	Ile	Glu	Glu	Pro	Leu	Phe	Ala
		275					280					285			
Lys	Thr	Asp	Val	Asp	Ser	Tyr	His	Tyr	Tyr	Trp	Ala	Leu	Asp	Asp	Lys
	290					295					300				
Tyr	Ser	Gly	Gly	Ala	Glu	Pro	Leu	Ala	Tyr	Val	Ser	Gly	Glu	Lys	His
305					310				315					320	
Val	Cys	Leu	Gly	Leu	Ile	Ser	Ser	Asn	His	Ser	Cys	Ile	Glu	Asp	Arg
				325				330					335		
Asp	Ala	Val	Val	Ser	Arg	Ile	Tyr	Glu	Ala	Ala	Ser	Tyr	Ile	Pro	Leu
			340					345					350		
Glu	Arg	Leu	Ser	Leu	Ser	Pro	Gln	Cys	Gly	Phe	Ala	Ser	Cys	Glu	Gly
		355					360						365		

Asp His Arg Met Thr Glu Glu Glu Gln Trp Lys Lys Ile Ala Phe Val  
 370 375 380  
 Lys Glu Ile Ala Lys Glu Ile Trp Gly  
 385 390

<210> 451  
 <211> 634  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 451  
 Glu Ala Tyr Thr Gly Phe Arg Gly Gly Gly Gly Ile Ser Phe Ser Asn  
 1 5 10 15  
 Asn Ile Val Gln Gly Thr Thr Ala Gly Asn Gly Gly Ala Ile Ser Ile  
 20 25 30  
 Leu Ala Ala Gly Glu Cys Ser Leu Ser Ala Glu Ala Gly Asp Ile Thr  
 35 40 45  
 Phe Asn Gly Asn Ala Ile Val Ala Thr Thr Pro Gln Thr Thr Lys Arg  
 50 55 60  
 Asn Ser Ile Asp Ile Gly Ser Thr Ala Lys Ile Thr Asn Leu Arg Ala  
 65 70 75 80  
 Ile Ser Gly His Ser Ile Phe Phe Tyr Asp Pro Ile Thr Ala Asn Thr  
 85 90 95  
 Ala Ala Asp Ser Thr Asp Thr Leu Asn Leu Asn Lys Ala Asp Ala Gly  
 100 105 110  
 Asn Ser Thr Asp Tyr Ser Gly Ser Ile Val Phe Ser Gly Glu Lys Leu  
 115 120 125  
 Ser Glu Asp Glu Ala Lys Val Ala Asp Asn Leu Thr Ser Thr Leu Lys  
 130 135 140  
 Gln Pro Val Thr Leu Thr Ala Gly Asn Leu Val Leu Lys Arg Gly Val  
 145 150 155 160  
 Thr Leu Asp Thr Lys Gly Phe Thr Gln Thr Ala Gly Ser Ser Val Ile  
 165 170 175  
 Met Asp Ala Gly Thr Thr Leu Lys Ala Ser Thr Glu Glu Val Thr Leu  
 180 185 190  
 Thr Gly Leu Ser Ile Pro Val Asp Ser Leu Gly Glu Gly Lys Lys Val  
 195 200 205  
 Val Ile Ala Ala Ser Ala Ala Ser Lys Asn Val Ala Leu Ser Gly Pro  
 210 215 220  
 Ile Leu Leu Leu Asp Asn Gln Gly Asn Ala Tyr Glu Asn His Asp Leu  
 225 230 235 240  
 Gly Lys Thr Gln Asp Phe Ser Phe Val Gln Leu Ser Ala Leu Gly Thr  
 245 250 255  
 Ala Thr Thr Thr Asp Val Pro Ala Val Pro Thr Val Ala Thr Pro Thr  
 260 265 270  
 His Tyr Gly Tyr Gln Gly Thr Trp Gly Met Thr Trp Val Asp Asp Thr  
 275 280 285  
 Ala Ser Thr Pro Lys Thr Lys Thr Ala Thr Leu Ala Trp Thr Asn Thr  
 290 295 300  
 Gly Tyr Leu Pro Asn Pro Glu Arg Gln Gly Pro Leu Val Pro Asn Ser  
 305 310 315 320  
 Leu Trp Gly Ser Phe Ser Asp Ile Gln Ala Ile Gln Gly Val Ile Glu  
 325 330 335  
 Arg Ser Ala Leu Thr Leu Cys Ser Asp Arg Gly Phe Trp Ala Ala Gly  
 340 345 350  
 Val Ala Asn Phe Leu Asp Lys Asp Lys Lys Gly Glu Lys Arg Lys Tyr  
 355 360 365  
 Arg His Lys Ser Gly Gly Tyr Ala Ile Gly Gly Ala Ala Gln Thr Cys  
 370 375 380  
 Ser Glu Asn Leu Ile Ser Phe Ala Phe Cys Gln Leu Phe Gly Ser Asp  
 385 390 395 400

Lys	Asp	Phe	Leu	Val	Ala	Lys	Asn	His	Thr	Asp	Thr	Tyr	Ala	Gly	Ala	
				405					410					415		
Phe	Tyr	Ile	Gln	His	Ile	Thr	Glu	Cys	Ser	Gly	Phe	Ile	Gly	Cys	Leu	
			420					425					430			
Leu	Asp	Lys	Leu	Pro	Gly	Ser	Trp	Ser	His	Lys	Pro	Leu	Val	Leu	Glu	
		435					440					445				
Gly	Gln	Leu	Ala	Tyr	Ser	His	Val	Ser	Asn	Asp	Leu	Lys	Thr	Lys	Tyr	
	450					455					460					
Thr	Ala	Tyr	Pro	Glu	Val	Lys	Gly	Ser	Trp	Gly	Asn	Asn	Ala	Phe	Asn	
465					470					475					480	
Met	Met	Leu	Gly	Ala	Ser	Ser	His	Ser	Tyr	Pro	Glu	Tyr	Leu	His	Cys	
				485					490					495		
Phe	Asp	Thr	Tyr	Ala	Pro	Tyr	Ile	Lys	Leu	Asn	Leu	Thr	Tyr	Ile	Arg	
			500					505					510			
Gln	Asp	Ser	Phe	Ser	Glu	Lys	Gly	Thr	Glu	Gly	Arg	Ser	Phe	Asp	Asp	
		515					520					525				
Ser	Asn	Leu	Phe	Asn	Leu	Ser	Leu	Pro	Ile	Gly	Val	Lys	Phe	Glu	Lys	
	530					535					540					
Phe	Ser	Asp	Cys	Asn	Asp	Phe	Ser	Tyr	Asp	Leu	Thr	Leu	Ser	Tyr	Val	
545					550					555					560	
Pro	Asp	Leu	Ile	Arg	Asn	Asp	Pro	Lys	Cys	Thr	Thr	Ala	Leu	Val	Ile	
				565					570					575		
Ser	Gly	Ala	Ser	Trp	Glu	Thr	Tyr	Ala	Asn	Asn	Leu	Ala	Arg	Gln	Ala	
		580						585					590			
Leu	Gln	Val	Arg	Ala	Gly	Ser	His	Tyr	Ala	Phe	Ser	Pro	Met	Phe	Glu	
		595					600					605				
Val	Leu	Gly	Gln	Phe	Val	Phe	Glu	Val	Arg	Gly	Ser	Ser	Arg	Ile	Tyr	
	610					615					620					
Asn	Val	Asp	Leu	Gly	Gly	Lys	Phe	Gln	Phe							
625						630										

<210> 452

<211> 314

<212> PRT

<213> Chlamydia pneumoniae

<400> 452

Ser	Gly	Phe	Met	Lys	Ser	Gln	Phe	Ser	Trp	Leu	Val	Leu	Ser	Ser	Thr	
1				5					10					15		
Leu	Ala	Cys	Phe	Thr	Ser	Cys	Ser	Thr	Val	Phe	Ala	Ala	Thr	Ala	Glu	
			20					25					30			
Asn	Ile	Gly	Pro	Ser	Asp	Ser	Phe	Asp	Gly	Ser	Thr	Asn	Thr	Gly	Thr	
		35					40					45				
Tyr	Thr	Pro	Lys	Asn	Thr	Thr	Thr	Gly	Ile	Asp	Tyr	Thr	Leu	Thr	Gly	
	50					55					60					
Asp	Ile	Thr	Leu	Gln	Asn	Leu	Gly	Asp	Ser	Ala	Ala	Leu	Thr	Lys	Gly	
65					70					75				80		
Cys	Phe	Ser	Asp	Thr	Thr	Glu	Ser	Leu	Ser	Phe	Ala	Gly	Lys	Gly	Tyr	
			85						90				95			
Ser	Leu	Ser	Phe	Leu	Asn	Ile	Lys	Ser	Ser	Ala	Glu	Gly	Ala	Ala	Leu	
			100					105					110			
Ser	Val	Thr	Thr	Asp	Lys	Asn	Leu	Ser	Leu	Thr	Gly	Phe	Ser	Ser	Leu	
		115					120					125				
Thr	Phe	Leu	Ala	Ala	Pro	Ser	Ser	Val	Ile	Thr	Thr	Pro	Ser	Gly	Lys	
	130					135					140					
Gly	Ala	Val	Lys	Cys	Gly	Gly	Asp	Leu	Thr	Phe	Asp	Asn	Asn	Gly	Thr	
145					150					155				160		
Ile	Leu	Phe	Lys	Gln	Asp	Tyr	Cys	Glu	Glu	Asn	Gly	Gly	Ala	Ile	Ser	
			165						170					175		
Thr	Lys	Asn	Leu	Ser	Leu	Lys	Asn	Ser	Thr	Gly	Ser	Ile	Ser	Phe	Glu	
			180					185					190			

Gly	Asn	Lys	Ser	Ser	Ala	Thr	Gly	Lys	Lys	Gly	Gly	Ala	Ile	Cys	Ala	
	195						200					205				
Thr	Gly	Thr	Val	Asp	Ile	Thr	Asn	Asn	Thr	Ala	Pro	Thr	Leu	Phe	Ser	
	210					215					220					
Asn	Asn	Ile	Ala	Glu	Ala	Ala	Gly	Gly	Ala	Ile	Asn	Ser	Thr	Gly	Asn	
225					230					235					240	
Cys	Thr	Ile	Thr	Gly	Asn	Thr	Ser	Leu	Val	Phe	Ser	Glu	Asn	Ser	Val	
				245					250					255		
Thr	Ala	Thr	Ala	Gly	Asn	Gly	Gly	Ala	Leu	Ser	Gly	Asp	Ala	Asp	Val	
			260					265					270			
Thr	Ile	Ser	Gly	Asn	Gln	Ser	Val	Thr	Phe	Ser	Gly	Asn	Gln	Ala	Val	
	275						280					285				
Ala	Asn	Gly	Gly	Ala	Ile	Tyr	Ala	Lys	Lys	Leu	Thr	Leu	Ala	Ser	Gly	
	290					295					300					
Gly	Gly	Gly	Val	Ser	Pro	Phe	Leu	Thr	Ile							
305					310											

<210> 453

<211> 967

<212> PRT

<213> Chlamydia pneumoniae

<400> 453

Lys	Thr	Gln	Arg	Val	Lys	Ile	Lys	Ile	Leu	Asp	Ser	Cys	Phe	Val	Ile	
1				5					10					15		
Phe	Asn	Leu	Ile	Tyr	Leu	Phe	Cys	Phe	Tyr	Ile	Asp	Ala	Asn	Ser	Ser	
			20					25					30			
Leu	Lys	Asn	Lys	Ser	Ile	Thr	Met	Lys	Thr	Ser	Ile	Pro	Trp	Val	Leu	
		35					40					45				
Val	Ser	Ser	Val	Leu	Ala	Phe	Ser	Cys	His	Leu	Gln	Ser	Leu	Ala	Asn	
	50					55					60					
Glu	Glu	Leu	Leu	Ser	Pro	Asp	Asp	Ser	Phe	Asn	Gly	Asn	Ile	Asp	Ser	
65					70					75				80		
Gly	Thr	Phe	Thr	Pro	Lys	Thr	Ser	Ala	Thr	Thr	Tyr	Ser	Leu	Thr	Gly	
				85					90					95		
Asp	Val	Phe	Phe	Tyr	Glu	Pro	Gly	Lys	Gly	Thr	Pro	Leu	Ser	Asp	Ser	
			100					105					110			
Cys	Phe	Lys	Gln	Thr	Thr	Asp	Asn	Leu	Thr	Phe	Leu	Gly	Asn	Gly	His	
	115						120					125				
Ser	Leu	Thr	Phe	Gly	Phe	Ile	Asp	Ala	Gly	Thr	His	Ala	Gly	Ala	Ala	
	130					135					140					
Ala	Ser	Thr	Thr	Ala	Asn	Lys	Asn	Leu	Thr	Phe	Ser	Gly	Phe	Ser	Leu	
145					150					155					160	
Leu	Ser	Phe	Asp	Ser	Ser	Pro	Ser	Thr	Thr	Val	Thr	Thr	Gly	Gln	Gly	
			165						170					175		
Thr	Leu	Ser	Ser	Ala	Gly	Gly	Val	Asn	Leu	Glu	Asn	Ile	Arg	Lys	Leu	
			180					185					190			
Val	Val	Ala	Gly	Asn	Phe	Ser	Thr	Ala	Asp	Gly	Gly	Ala	Ile	Lys	Gly	
	195						200					205				
Ala	Ser	Phe	Leu	Leu	Thr	Gly	Thr	Ser	Gly	Asp	Ala	Leu	Phe	Ser	Asn	
	210					215					220					
Asn	Ser	Ser	Ser	Thr	Lys	Gly	Gly	Ala	Ile	Ala	Thr	Thr	Ala	Gly	Ala	
225					230					235					240	
Arg	Ile	Ala	Asn	Asn	Thr	Gly	Tyr	Val	Arg	Phe	Leu	Ser	Asn	Ile	Ala	
			245						250					255		
Ser	Thr	Ser	Gly	Gly	Ala	Ile	Asp	Asp	Glu	Gly	Thr	Ser	Ile	Leu	Ser	
			260					265					270			
Asn	Asn	Lys	Phe	Leu	Tyr	Phe	Glu	Gly	Asn	Ala	Ala	Lys	Thr	Thr	Gly	
	275						280					285				
Gly	Ala	Ile	Cys	Asn	Thr	Lys	Ala	Ser	Gly	Ser	Pro	Glu	Leu	Ile	Ile	
	290					295					300					

Ser	Asn	Asn	Lys	Thr	Leu	Ile	Phe	Ala	Ser	Asn	Val	Ala	Glu	Thr	Ser	305	310	315	320
Gly	Gly	Ala	Ile	His	Ala	Lys	Lys	Leu	Ala	Leu	Ser	Ser	Gly	Gly	Phe	325	330	335	
Thr	Glu	Phe	Leu	Arg	Asn	Asn	Val	Ser	Ser	Ala	Thr	Pro	Lys	Gly	Gly	340	345	350	
Ala	Ile	Ser	Ile	Asp	Ala	Ser	Gly	Glu	Leu	Ser	Leu	Ser	Ala	Glu	Thr	355	360	365	
Gly	Asn	Ile	Thr	Phe	Val	Arg	Asn	Thr	Leu	Thr	Thr	Thr	Gly	Ser	Thr	370	375	380	
Asp	Thr	Pro	Lys	Arg	Asn	Ala	Ile	Asn	Ile	Gly	Ser	Asn	Gly	Lys	Phe	385	390	395	400
Thr	Glu	Leu	Arg	Ala	Ala	Lys	Asn	His	Thr	Ile	Phe	Phe	Tyr	Asp	Pro	405	410	415	
Ile	Thr	Ser	Glu	Gly	Thr	Ser	Ser	Asp	Val	Leu	Lys	Ile	Asn	Asn	Gly	420	425	430	
Ser	Ala	Gly	Ala	Leu	Asn	Pro	Tyr	Gln	Gly	Thr	Ile	Leu	Phe	Ser	Gly	435	440	445	
Glu	Thr	Leu	Thr	Ala	Asp	Glu	Leu	Lys	Val	Ala	Asp	Asn	Leu	Lys	Ser	450	455	460	
Ser	Phe	Thr	Gln	Pro	Val	Ser	Leu	Ser	Gly	Gly	Lys	Leu	Leu	Leu	Gln	465	470	475	480
Lys	Gly	Val	Thr	Leu	Glu	Ser	Thr	Ser	Phe	Ser	Gln	Glu	Ala	Gly	Ser	485	490	495	
Leu	Leu	Gly	Met	Asp	Ser	Gly	Thr	Thr	Leu	Ser	Thr	Thr	Ala	Gly	Ser	500	505	510	
Ile	Thr	Ile	Thr	Asn	Leu	Gly	Ile	Asn	Val	Asp	Ser	Leu	Gly	Leu	Lys	515	520	525	
Gln	Pro	Val	Ser	Leu	Thr	Ala	Lys	Gly	Ala	Ser	Asn	Lys	Val	Ile	Val	530	535	540	
Ser	Gly	Lys	Leu	Asn	Leu	Ile	Asp	Ile	Glu	Gly	Asn	Ile	Tyr	Glu	Ser	545	550	555	560
His	Met	Phe	Ser	His	Asp	Gln	Leu	Phe	Ser	Leu	Leu	Lys	Ile	Thr	Val	565	570	575	
Asp	Ala	Asp	Val	Asp	Thr	Asn	Val	Asp	Ile	Ser	Ser	Leu	Ile	Pro	Val	580	585	590	
Pro	Ala	Glu	Asp	Pro	Asn	Ser	Glu	Tyr	Gly	Phe	Gln	Gly	Gln	Trp	Asn	595	600	605	
Val	Asn	Trp	Thr	Thr	Asp	Thr	Ala	Thr	Asn	Thr	Lys	Glu	Ala	Thr	Ala	610	615	620	
Thr	Trp	Thr	Lys	Thr	Gly	Phe	Val	Pro	Ser	Pro	Glu	Arg	Lys	Ser	Ala	625	630	635	640
Leu	Val	Cys	Asn	Thr	Leu	Trp	Gly	Val	Phe	Thr	Asp	Ile	Arg	Ser	Leu	645	650	655	
Gln	Gln	Leu	Val	Glu	Ile	Gly	Ala	Thr	Gly	Met	Glu	His	Lys	Gln	Gly	660	665	670	
Phe	Trp	Val	Ser	Ser	Met	Thr	Asn	Phe	Leu	His	Lys	Thr	Gly	Asp	Glu	675	680	685	
Asn	Arg	Lys	Gly	Phe	Arg	His	Thr	Ser	Gly	Gly	Tyr	Val	Ile	Gly	Gly	690	695	700	
Ser	Ala	His	Thr	Pro	Lys	Asp	Asp	Leu	Phe	Thr	Phe	Ala	Phe	Cys	His	705	710	715	720
Leu	Phe	Ala	Arg	Asp	Lys	Asp	Cys	Phe	Ile	Ala	His	Asn	Asn	Ser	Arg	725	730	735	
Thr	Tyr	Gly	Gly	Thr	Leu	Phe	Phe	Lys	His	Ser	His	Thr	Leu	Gln	Pro	740	745	750	
Gln	Asn	Tyr	Leu	Arg	Leu	Gly	Arg	Ala	Lys	Phe	Ser	Glu	Ser	Ala	Ile	755	760	765	
Glu	Lys	Phe	Pro	Arg	Glu	Ile	Pro	Leu	Ala	Leu	Asp	Val	Gln	Val	Ser	770	775	780	



Phe	Ser	His	Ser	Asp	Asn	Arg	Met	Glu	Thr	His	Tyr	Thr	Ser	Leu	Pro
785					790					795					800
Glu	Ser	Glu	Gly	Ser	Trp	Ser	Asn	Glu	Cys	Ile	Ala	Gly	Gly	Ile	Gly
				805					810					815	
Leu	Asp	Leu	Pro	Phe	Val	Leu	Ser	Asn	Pro	His	Pro	Leu	Phe	Lys	Thr
			820					825					830		
Phe	Ile	Pro	Gln	Met	Lys	Val	Glu	Met	Val	Tyr	Val	Ser	Gln	Asn	Ser
		835					840					845			
Phe	Phe	Glu	Ser	Ser	Ser	Asp	Gly	Arg	Gly	Phe	Ser	Ile	Gly	Arg	Leu
	850					855					860				
Leu	Asn	Leu	Ser	Ile	Pro	Val	Gly	Ala	Lys	Phe	Val	Gln	Gly	Asp	Ile
865					870					875					880
Gly	Asp	Ser	Tyr	Thr	Tyr	Asp	Leu	Ser	Gly	Phe	Phe	Val	Ser	Asp	Val
				885					890					895	
Tyr	Arg	Asn	Asn	Pro	Gln	Ser	Thr	Ala	Thr	Leu	Val	Met	Ser	Pro	Asp
		900						905					910		
Ser	Trp	Lys	Ile	Arg	Gly	Gly	Asn	Leu	Ser	Arg	Gln	Ala	Phe	Leu	Leu
		915					920					925			
Arg	Gly	Ser	Asn	Asn	Tyr	Val	Tyr	Asn	Ser	Asn	Cys	Glu	Leu	Phe	Gly
	930					935					940				
His	Tyr	Ala	Met	Glu	Leu	Arg	Gly	Ser	Ser	Arg	Asn	Tyr	Asn	Val	Asp
945					950					955					960
Val	Gly	Thr	Lys	Leu	Arg	Phe									
				965											

<210> 454  
 <211> 519  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 454															
Phe	Asn	Glu	Glu	Thr	Met	Thr	Ile	Leu	Arg	Asn	Phe	Leu	Thr	Cys	Ser
1				5					10					15	
Ala	Leu	Phe	Leu	Ala	Leu	Pro	Ala	Ala	Ala	Gln	Val	Val	Tyr	Leu	His
			20					25					30		
Glu	Ser	Asp	Gly	Tyr	Asn	Gly	Ala	Ile	Asn	Asn	Lys	Ser	Leu	Glu	Pro
		35				40						45			
Lys	Ile	Thr	Cys	Tyr	Pro	Glu	Gly	Thr	Ser	Tyr	Ile	Phe	Leu	Asp	Asp
	50					55					60				
Val	Arg	Ile	Ser	Asn	Val	Lys	His	Asp	Gln	Glu	Asp	Ala	Gly	Val	Phe
65					70					75					80
Ile	Asn	Arg	Ser	Gly	Asn	Leu	Phe	Phe	Met	Gly	Asn	Arg	Cys	Asn	Phe
				85					90					95	
Thr	Phe	His	Asn	Leu	Met	Thr	Glu	Gly	Phe	Gly	Ala	Ala	Ile	Ser	Asn
			100					105					110		
Arg	Val	Gly	Asp	Thr	Thr	Leu	Thr	Leu	Ser	Asn	Phe	Ser	Tyr	Leu	Ala
		115					120					125			
Phe	Thr	Ser	Ala	Pro	Leu	Leu	Pro	Gln	Gly	Gln	Gly	Ala	Ile	Tyr	Ser
	130					135					140				
Leu	Gly	Ser	Val	Met	Ile	Glu	Asn	Ser	Glu	Glu	Val	Thr	Phe	Cys	Gly
145					150					155					160
Asn	Tyr	Ser	Ser	Trp	Ser	Gly	Ala	Ala	Ile	Tyr	Thr	Pro	Tyr	Leu	Leu
				165					170					175	
Gly	Ser	Lys	Ala	Ser	Arg	Pro	Ser	Val	Asn	Leu	Ser	Gly	Asn	Arg	Tyr
		180						185					190		
Leu	Val	Phe	Arg	Asp	Asn	Val	Ser	Gln	Gly	Tyr	Gly	Gly	Ala	Ile	Ser
		195					200					205			
Thr	His	Asn	Leu	Thr	Leu	Thr	Thr	Arg	Gly	Pro	Ser	Cys	Phe	Glu	Asn
	210					215					220				
Asn	His	Ala	Tyr	His	Asp	Val	Asn	Ser	Asn	Gly	Gly	Ala	Ile	Ala	Ile
225					230					235					240

Ala	Pro	Gly	Gly	Ser	Ile	Ser	Ile	Ser	Val	Lys	Ser	Gly	Asp	Leu	Ile
				245					250					255	
Phe	Lys	Gly	Asn	Thr	Ala	Ser	Gln	Asp	Gly	Asn	Thr	Ile	His	Asn	Ser
			260					265					270		
Ile	His	Leu	Gln	Ser	Gly	Ala	Gln	Phe	Lys	Asn	Leu	Arg	Ala	Val	Ser
		275					280					285			
Glu	Ser	Gly	Val	Tyr	Phe	Tyr	Asp	Pro	Ile	Ser	His	Ser	Glu	Ser	His
	290					295				300					
Lys	Ile	Thr	Asp	Leu	Val	Ile	Asn	Ala	Pro	Glu	Gly	Lys	Glu	Thr	Tyr
305					310				315						320
Glu	Gly	Thr	Ile	Ser	Phe	Ser	Gly	Leu	Cys	Leu	Asp	Asp	His	Glu	Val
				325					330					335	
Cys	Ala	Glu	Asn	Leu	Thr	Ser	Thr	Ile	Leu	Gln	Asp	Val	Thr	Leu	Ala
			340					345					350		
Gly	Gly	Thr	Leu	Ser	Leu	Ser	Asp	Gly	Val	Thr	Leu	Gln	Leu	His	Ser
		355					360					365			
Phe	Lys	Gln	Glu	Ala	Ser	Ser	Thr	Leu	Thr	Met	Ser	Pro	Gly	Thr	Thr
	370					375					380				
Leu	Leu	Cys	Ser	Gly	Asp	Ala	Arg	Val	Gln	Asn	Leu	His	Ile	Leu	Ile
385					390					395					400
Glu	Asp	Thr	Asp	Asn	Phe	Val	Pro	Val	Arg	Ile	Arg	Ala	Glu	Asp	Lys
				405					410					415	
Asp	Ala	Leu	Val	Ser	Leu	Glu	Lys	Leu	Lys	Val	Ala	Phe	Glu	Ala	Tyr
			420					425					430		
Trp	Ser	Val	Tyr	Asp	Phe	Pro	Gln	Phe	Lys	Glu	Ala	Phe	Thr	Ile	Pro
	435						440					445			
Leu	Leu	Glu	Leu	Leu	Gly	Pro	Ser	Phe	Asp	Ser	Leu	Leu	Leu	Gly	Glu
	450					455					460				
Thr	Thr	Leu	Glu	Arg	Thr	Gln	Val	Thr	Thr	Glu	Asn	Asp	Ala	Val	Arg
465					470					475					480
Gly	Phe	Trp	Ser	Leu	Ser	Trp	Glu	Glu	Tyr	Pro	Pro	Ser	Leu	Asp	Lys
				485					490					495	
Asp	Arg	Arg	Ile	Thr	Pro	Thr	Lys	Lys	Thr	Val	Phe	Leu	Thr	Trp	Asn
			500					505					510		
Pro	Glu	Ile	Thr	Ser	Thr	Pro									
			515												

<210> 455

<211> 999

<212> PRT

<213> Chlamydia pneumoniae

<400> 455

Asn	Cys	Val	Leu	Leu	Tyr	Leu	Phe	Phe	Tyr	Ser	Leu	Ser	Leu	Ile	Cys
1				5					10					15	
Arg	Ile	Ile	Trp	Phe	His	Leu	Tyr	Val	Gln	Met	Lys	Thr	Ser	Ile	Arg
			20					25					30		
Lys	Phe	Leu	Ile	Ser	Thr	Thr	Leu	Ala	Pro	Cys	Phe	Ala	Ser	Thr	Ala
		35					40					45			
Phe	Thr	Val	Glu	Val	Ile	Met	Pro	Ser	Glu	Asn	Phe	Asp	Gly	Ser	Ser
	50					55					60				
Gly	Lys	Ile	Phe	Pro	Tyr	Thr	Thr	Leu	Ser	Asp	Pro	Arg	Gly	Thr	Leu
65					70					75					80
Cys	Ile	Phe	Ser	Gly	Asp	Leu	Tyr	Ile	Ala	Asn	Leu	Asp	Asn	Ala	Ile
				85					90					95	
Ser	Arg	Thr	Ser	Ser	Ser	Cys	Phe	Ser	Asn	Arg	Ala	Gly	Ala	Leu	Gln
			100					105					110		
Ile	Leu	Gly	Lys	Gly	Gly	Val	Phe	Ser	Phe	Leu	Asn	Ile	Arg	Ser	Ser
		115					120					125			
Ala	Asp	Gly	Ala	Ala	Ile	Ser	Ser	Val	Ile	Thr	Gln	Asn	Pro	Glu	Leu
	130						135								140

Cys	Pro	Leu	Ser	Phe	Ser	Gly	Phe	Ser	Gln	Met	Ile	Phe	Asp	Asn	Cys
145					150					155					160
Glu	Ser	Leu	Thr	Ser	Asp	Thr	Ser	Ala	Ser	Asn	Val	Ile	Pro	His	Ala
				165					170					175	
Ser	Ala	Ile	Tyr	Ala	Thr	Thr	Pro	Met	Leu	Phe	Thr	Asn	Asn	Asp	Ser
			180					185					190		
Ile	Leu	Phe	Gln	Tyr	Asn	Arg	Ser	Ala	Gly	Phe	Gly	Ala	Ala	Ile	Arg
		195					200					205			
Gly	Thr	Ser	Ile	Thr	Ile	Glu	Asn	Thr	Lys	Lys	Ser	Leu	Leu	Phe	Asn
	210					215					220				
Gly	Asn	Gly	Ser	Ile	Ser	Asn	Gly	Gly	Ala	Leu	Thr	Gly	Ser	Ala	Ala
225					230					235					240
Ile	Asn	Leu	Ile	Asn	Asn	Ser	Ala	Pro	Val	Ile	Phe	Ser	Thr	Asn	Ala
				245				250						255	
Thr	Gly	Ile	Tyr	Gly	Gly	Ala	Ile	Tyr	Leu	Thr	Gly	Gly	Ser	Met	Leu
		260					265						270		
Thr	Ser	Gly	Asn	Leu	Ser	Gly	Val	Leu	Phe	Val	Asn	Asn	Ser	Ser	Arg
		275					280					285			
Ser	Gly	Gly	Ala	Ile	Tyr	Ala	Asn	Gly	Asn	Val	Thr	Phe	Ser	Asn	Asn
	290					295					300				
Ser	Asp	Leu	Thr	Phe	Gln	Asn	Asn	Thr	Ala	Ser	Pro	Gln	Asn	Ser	Leu
305					310					315					320
Pro	Ala	Pro	Thr	Pro	Pro	Pro	Thr	Pro	Pro	Ala	Val	Thr	Pro	Leu	Leu
				325						330				335	
Gly	Tyr	Gly	Gly	Ala	Ile	Phe	Cys	Thr	Pro	Pro	Ala	Thr	Pro	Pro	Pro
			340					345					350		
Thr	Gly	Val	Ser	Leu	Thr	Ile	Ser	Gly	Glu	Asn	Ser	Val	Thr	Phe	Leu
		355					360					365			
Glu	Asn	Ile	Ala	Ser	Glu	Gln	Gly	Gly	Ala	Leu	Tyr	Gly	Lys	Lys	Ile
	370					375					380				
Ser	Ile	Asp	Ser	Asn	Lys	Ser	Thr	Ile	Phe	Leu	Gly	Asn	Thr	Ala	Gly
385					390					395					400
Lys	Gly	Gly	Ala	Ile	Ala	Ile	Pro	Glu	Ser	Gly	Glu	Leu	Ser	Leu	Ser
				405					410					415	
Ala	Asn	Gln	Gly	Asp	Ile	Leu	Phe	Asn	Lys	Asn	Leu	Ser	Ile	Thr	Ser
			420					425					430		
Gly	Thr	Pro	Thr	Arg	Asn	Ser	Ile	His	Phe	Gly	Lys	Asp	Ala	Lys	Phe
		435					440					445			
Ala	Thr	Leu	Gly	Ala	Thr	Gln	Gly	Tyr	Thr	Leu	Tyr	Phe	Tyr	Asp	Pro
	450					455					460				
Ile	Thr	Ser	Asp	Asp	Leu	Ser	Ala	Ala	Ser	Ala	Ala	Ala	Thr	Val	Val
465					470					475					480
Val	Asn	Pro	Lys	Ala	Ser	Ala	Asp	Gly	Ala	Tyr	Ser	Gly	Thr	Ile	Val
				485					490					495	
Phe	Ser	Gly	Glu	Thr	Leu	Thr	Ala	Thr	Glu	Ala	Ala	Thr	Pro	Ala	Asn
			500					505					510		
Ala	Thr	Ser	Thr	Leu	Asn	Gln	Lys	Leu	Glu	Leu	Glu	Gly	Gly	Thr	Leu
		515					520					525			
Ala	Leu	Arg	Asn	Gly	Ala	Thr	Leu	Asn	Val	His	Asn	Phe	Thr	Gln	Asp
	530					535					540				
Glu	Lys	Ser	Val	Val	Ile	Met	Asp	Ala	Gly	Thr	Thr	Leu	Ala	Thr	Thr
545					550					555					560
Asn	Gly	Ala	Asn	Asn	Thr	Asp	Gly	Ala	Ile	Thr	Leu	Asn	Lys	Leu	Val
				565					570					575	
Ile	Asn	Leu	Asp	Ser	Leu	Asp	Gly	Thr	Lys	Ala	Ala	Val	Val	Asn	Val
			580					585					590		
Gln	Ser	Thr	Asn	Gly	Ala	Leu	Thr	Ile	Ser	Gly	Thr	Leu	Gly	Leu	Val
		595					600					605			
Lys	Asn	Ser	Gln	Asp	Cys	Cys	Asp	Asn	His	Gly	Met	Phe	Asn	Lys	Asp
	610						615					620			

Leu	Gln	Gln	Val	Pro	Ile	Leu	Glu	Leu	Lys	Ala	Thr	Ser	Asn	Thr	Val
625					630					635					640
Thr	Thr	Thr	Asp	Phe	Ser	Leu	Gly	Thr	Asn	Gly	Tyr	Gln	Gln	Ser	Pro
				645					650						655
Tyr	Gly	Tyr	Gln	Gly	Thr	Trp	Glu	Phe	Thr	Ile	Asp	Thr	Thr	Thr	His
			660					665							670
Thr	Val	Thr	Gly	Asn	Trp	Lys	Lys	Thr	Gly	Tyr	Leu	Pro	His	Pro	Glu
			675				680						685		
Arg	Leu	Ala	Pro	Leu	Ile	Pro	Asn	Ser	Leu	Trp	Ala	Asn	Val	Ile	Asp
	690					695						700			
Leu	Arg	Ala	Val	Ser	Gln	Ala	Ser	Ala	Ala	Asp	Gly	Glu	Asp	Val	Pro
705					710					715					720
Gly	Lys	Gln	Leu	Ser	Ile	Thr	Gly	Ile	Thr	Asn	Phe	Phe	His	Ala	Asn
				725					730						735
His	Thr	Gly	Asp	Ala	Arg	Ser	Tyr	Arg	His	Met	Gly	Gly	Gly	Tyr	Leu
			740					745						750	
Ile	Asn	Thr	Tyr	Thr	Arg	Ile	Thr	Pro	Asp	Ala	Ala	Leu	Ser	Leu	Gly
		755					760						765		
Phe	Gly	Gln	Leu	Phe	Thr	Lys	Ser	Lys	Asp	Tyr	Leu	Val	Gly	His	Gly
	770					775						780			
His	Ser	Asn	Val	Tyr	Phe	Ala	Thr	Val	Tyr	Ser	Asn	Ile	Thr	Lys	Ser
785					790					795					800
Leu	Phe	Gly	Ser	Ser	Arg	Phe	Phe	Ser	Gly	Gly	Thr	Ser	Arg	Val	Thr
				805					810						815
Tyr	Ser	Arg	Ser	Asn	Glu	Lys	Val	Lys	Thr	Ser	Tyr	Thr	Lys	Leu	Pro
			820					825						830	
Lys	Gly	Arg	Cys	Ser	Trp	Ser	Asn	Asn	Cys	Trp	Leu	Gly	Glu	Leu	Glu
		835					840						845		
Gly	Asn	Leu	Pro	Ile	Thr	Leu	Ser	Ser	Arg	Ile	Leu	Asn	Leu	Lys	Gln
	850					855						860			
Ile	Ile	Pro	Phe	Val	Lys	Ala	Glu	Val	Ala	Tyr	Ala	Thr	His	Gly	Gly
865					870					875					880
Ile	Gln	Glu	Asn	Thr	Pro	Glu	Gly	Arg	Ile	Phe	Gly	His	Gly	His	Leu
				885					890						895
Leu	Asn	Val	Ala	Val	Pro	Val	Gly	Val	Arg	Phe	Gly	Lys	Asn	Ser	His
			900					905						910	
Asn	Arg	Pro	Asp	Phe	Tyr	Thr	Ile	Val	Ala	Tyr	Ala	Pro	Asp	Val	
		915					920						925		
Tyr	Arg	His	Asn	Pro	Asp	Cys	Asp	Thr	Thr	Leu	Pro	Ile	Asn	Gly	Ala
	930					935						940			
Thr	Trp	Thr	Ser	Ile	Gly	Asn	Asn	Leu	Thr	Arg	Ser	Thr	Leu	Leu	Val
945					950					955					960
Gln	Ala	Ser	Ser	His	Thr	Ser	Val	Asn	Asp	Val	Leu	Glu	Ile	Phe	Gly
				965					970						975
His	Cys	Gly	Cys	Asp	Ile	Arg	Arg	Thr	Ser	Arg	Gln	Tyr	Thr	Leu	Asp
			980					985						990	
Ile	Gly	Ser	Lys	Leu	Arg	Phe									
			995												

<210> 456  
 <211> 979  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 456  
 Gly Met Pro Leu Ser Phe Lys Ser Ser Ser Phe Cys Leu Leu Ala Cys  
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 Leu Cys Ser Ala Ser Cys Ala Phe Ala Glu Thr Arg Leu Gly Gly Asn  
 20 25 30  
 Phe Val Pro Pro Ile Thr Asn Gln Gly Glu Glu Ile Leu Leu Thr Ser  
 35 40 45

Asp	Phe	Val	Cys	Ser	Asn	Phe	Leu	Gly	Ala	Ser	Phe	Ser	Ser	Ser	Phe
50						55					60				
Ile	Asn	Ser	Ser	Ser	Asn	Leu	Ser	Leu	Leu	Gly	Lys	Gly	Leu	Ser	Leu
65					70					75					80
Thr	Phe	Thr	Ser	Cys	Gln	Ala	Pro	Thr	Asn	Ser	Asn	Tyr	Ala	Leu	Leu
				85					90					95	
Ser	Ala	Ala	Glu	Thr	Leu	Thr	Phe	Lys	Asn	Phe	Ser	Ser	Ile	Asn	Phe
			100					105					110		
Thr	Gly	Asn	Gln	Ser	Thr	Gly	Leu	Gly	Gly	Leu	Ile	Tyr	Gly	Lys	Asp
		115					120					125			
Ile	Val	Phe	Gln	Ser	Ile	Lys	Asp	Leu	Ile	Phe	Thr	Thr	Asn	Arg	Val
	130					135					140				
Ala	Tyr	Ser	Pro	Ala	Ser	Val	Thr	Thr	Ser	Ala	Thr	Pro	Ala	Ile	Thr
145					150				155						160
Thr	Val	Thr	Thr	Gly	Ala	Ser	Ala	Leu	Gln	Pro	Thr	Asp	Ser	Leu	Thr
				165					170					175	
Val	Glu	Asn	Ile	Ser	Gln	Ser	Ile	Lys	Phe	Phe	Gly	Asn	Leu	Ala	Asn
			180					185					190		
Phe	Gly	Ser	Ala	Ile	Ser	Ser	Ser	Pro	Thr	Ala	Val	Val	Lys	Phe	Ile
		195					200					205			
Asn	Asn	Thr	Ala	Thr	Met	Ser	Phe	Ser	His	Asn	Phe	Thr	Ser	Ser	Gly
	210					215					220				
Gly	Gly	Val	Ile	Tyr	Gly	Gly	Ser	Ser	Leu	Leu	Phe	Glu	Asn	Asn	Ser
225					230					235					240
Gly	Cys	Ile	Ile	Phe	Thr	Ala	Asn	Ser	Cys	Val	Asn	Ser	Leu	Lys	Gly
				245					250					255	
Val	Thr	Pro	Ser	Ser	Gly	Thr	Tyr	Ala	Leu	Gly	Ser	Gly	Gly	Ala	Ile
			260					265					270		
Cys	Ile	Pro	Thr	Gly	Thr	Phe	Glu	Leu	Lys	Asn	Asn	Gln	Gly	Lys	Cys
		275					280					285			
Thr	Phe	Ser	Tyr	Asn	Gly	Thr	Pro	Asn	Asp	Ala	Gly	Ala	Ile	Tyr	Ala
	290					295					300				
Glu	Thr	Cys	Asn	Ile	Val	Gly	Asn	Gln	Gly	Ala	Leu	Leu	Leu	Asp	Ser
305					310					315					320
Asn	Thr	Ala	Ala	Arg	Asn	Gly	Gly	Ala	Ile	Cys	Ala	Lys	Val	Leu	Asn
				325					330					335	
Ile	Gln	Gly	Arg	Gly	Pro	Ile	Glu	Phe	Ser	Arg	Asn	Arg	Ala	Glu	Lys
			340					345					350		
Gly	Gly	Ala	Ile	Phe	Ile	Gly	Pro	Ser	Val	Gly	Asp	Pro	Ala	Lys	Gln
		355					360					365			
Thr	Ser	Thr	Leu	Thr	Ile	Leu	Ala	Ser	Glu	Gly	Asp	Ile	Ala	Phe	Gln
		370				375					380				
Gly	Asn	Met	Leu	Asn	Thr	Lys	Pro	Gly	Ile	Arg	Asn	Ala	Ile	Thr	Val
385					390					395					400
Glu	Ala	Gly	Gly	Glu	Ile	Val	Ser	Leu	Ser	Ala	Gln	Gly	Gly	Ser	Arg
				405					410					415	
Leu	Val	Phe	Tyr	Asp	Pro	Ile	Thr	His	Ser	Leu	Pro	Thr	Thr	Ser	Pro
			420					425					430		
Ser	Asn	Lys	Asp	Ile	Thr	Ile	Asn	Ala	Asn	Gly	Ala	Ser	Gly	Ser	Val
		435					440					445			
Val	Phe	Thr	Ser	Lys	Gly	Leu	Ser	Ser	Thr	Glu	Leu	Leu	Leu	Pro	Ala
		450				455					460				
Asn	Thr	Thr	Thr	Ile	Leu	Leu	Gly	Thr	Val	Lys	Ile	Ala	Ser	Gly	Glu
465					470					475					480
Leu	Lys	Ile	Thr	Asp	Asn	Ala	Val	Val	Asn	Val	Leu	Gly	Phe	Ala	Thr
				485					490					495	
Gln	Gly	Ser	Gly	Gln	Leu	Thr	Leu	Gly	Ser	Gly	Gly	Thr	Leu	Gly	Leu
			500					505					510		
Ala	Thr	Pro	Thr	Gly	Ala	Pro	Ala	Ala	Val	Asp	Phe	Thr	Ile	Gly	Lys
		515					520					525			

Leu	Ala	Phe	Asp	Pro	Phe	Ser	Phe	Leu	Lys	Arg	Asp	Phe	Val	Ser	Ala	530	535	540
Ser	Val	Asn	Ala	Gly	Thr	Lys	Asn	Val	Thr	Leu	Thr	Gly	Ala	Leu	Val	545	550	555
Leu	Asp	Glu	His	Asp	Val	Thr	Asp	Leu	Tyr	Asp	Met	Val	Ser	Leu	Gln	565	570	575
Ser	Pro	Val	Ala	Ile	Pro	Ile	Ala	Val	Phe	Lys	Gly	Ala	Thr	Val	Thr	580	585	590
Lys	Thr	Gly	Phe	Pro	Asp	Gly	Glu	Ile	Ala	Thr	Pro	Ser	His	Tyr	Gly	595	600	605
Tyr	Gln	Gly	Lys	Trp	Ser	Tyr	Thr	Trp	Ser	Arg	Pro	Leu	Leu	Ile	Pro	610	615	620
Ala	Pro	Asp	Gly	Gly	Phe	Pro	Gly	Gly	Pro	Ser	Pro	Ser	Ala	Asn	Thr	625	630	635
Leu	Tyr	Ala	Val	Trp	Asn	Ser	Asp	Thr	Leu	Val	Arg	Ser	Thr	Tyr	Ile	645	650	655
Leu	Asp	Pro	Glu	Arg	Tyr	Gly	Glu	Ile	Val	Ser	Asn	Ser	Leu	Trp	Ile	660	665	670
Ser	Phe	Leu	Gly	Asn	Gln	Ala	Phe	Ser	Asp	Ile	Leu	Gln	Asp	Val	Leu	675	680	685
Leu	Ile	Asp	His	Pro	Gly	Leu	Ser	Ile	Thr	Ala	Lys	Ala	Leu	Gly	Ala	690	695	700
Tyr	Val	Glu	His	Thr	Pro	Arg	Gln	Gly	His	Glu	Gly	Phe	Ser	Gly	Arg	705	710	715
Tyr	Gly	Gly	Tyr	Gln	Ala	Ala	Leu	Ser	Met	Asn	Tyr	Thr	Asp	His	Thr	725	730	735
Thr	Leu	Gly	Leu	Ser	Phe	Gly	Gln	Leu	Tyr	Gly	Lys	Thr	Asn	Ala	Asn	740	745	750
Pro	Tyr	Asp	Ser	Arg	Cys	Ser	Glu	Gln	Met	Tyr	Leu	Leu	Ser	Phe	Phe	755	760	765
Gly	Gln	Phe	Pro	Ile	Val	Thr	Gln	Lys	Ser	Glu	Ala	Leu	Ile	Ser	Trp	770	775	780
Lys	Ala	Ala	Tyr	Gly	Tyr	Ser	Lys	Asn	His	Leu	Asn	Thr	Thr	Tyr	Leu	785	790	795
Arg	Pro	Asp	Lys	Ala	Pro	Lys	Ser	Gln	Gly	Gln	Trp	His	Asn	Asn	Ser	805	810	815
Tyr	Tyr	Val	Leu	Ile	Ser	Ala	Glu	His	Pro	Phe	Leu	Asn	Trp	Cys	Leu	820	825	830
Leu	Thr	Arg	Pro	Leu	Ala	Gln	Ala	Trp	Asp	Leu	Ser	Gly	Phe	Ile	Ser	835	840	845
Ala	Glu	Phe	Leu	Gly	Gly	Trp	Gln	Ser	Lys	Phe	Thr	Glu	Thr	Gly	Asp	850	855	860
Leu	Gln	Arg	Ser	Phe	Ser	Arg	Gly	Lys	Gly	Tyr	Asn	Val	Ser	Leu	Pro	865	870	875
Ile	Gly	Cys	Ser	Ser	Gln	Trp	Phe	Thr	Pro	Phe	Lys	Lys	Ala	Pro	Ser	885	890	895
Thr	Leu	Thr	Ile	Lys	Leu	Ala	Tyr	Lys	Pro	Asp	Ile	Tyr	Arg	Val	Asn	900	905	910
Pro	His	Asn	Ile	Val	Thr	Val	Val	Ser	Asn	Gln	Glu	Ser	Thr	Ser	Ile	915	920	925
Ser	Gly	Ala	Asn	Leu	Arg	Arg	His	Gly	Leu	Phe	Val	Gln	Ile	His	Asp	930	935	940
Val	Val	Asp	Leu	Thr	Glu	Asp	Thr	Gln	Ala	Phe	Leu	Asn	Tyr	Thr	Phe	945	950	955
Asp	Gly	Lys	Asn	Gly	Phe	Thr	Asn	His	Arg	Val	Ser	Thr	Gly	Leu	Lys	965	970	975
Ser	Thr	Phe																

<210> 457  
 <211> 302  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 457  
 Arg Tyr Phe Arg Arg Val Trp Leu Arg Phe Leu Leu Leu Val Ser Tyr  
 1 5 10 15  
 Asp Glu Lys Glu Lys Asp Val Val Val Val Cys Asn His Ser Glu Pro  
 20 25 30  
 Asn Ile Leu Gly Leu Pro Pro Glu Ala Val Ser Gln Leu Ile Glu Glu  
 35 40 45  
 Leu Ser Asp Glu Gly Tyr Ser Tyr Leu Asn Val Val Arg Cys Asp Leu  
 50 55 60  
 Ser Gly Glu Thr Thr Val Gln Gln Arg Leu Leu Leu Asn Ala Asp Glu  
 65 70 75 80  
 Gly Arg Ser Met Thr Val Val Ile Ser Glu Leu Pro Glu Gly His Pro  
 85 90 95  
 Asp Ile Arg Asn Leu Gln Leu Ala Ser Glu Arg Ile Phe Val Ser Arg  
 100 105 110  
 Glu Lys Glu Ala Ala Asp Ala Tyr Ala Ser Gly Cys Lys Val Val Ala  
 115 120 125  
 Phe Asp Asp Glu His Leu Pro Trp Val Ser Ser His Ile Ala Tyr Ala  
 130 135 140  
 Glu Glu Ile Arg Glu Lys Gln Glu Gln Thr Met Gln Gly Ser Leu Thr  
 145 150 155 160  
 Glu Glu Gln Leu Gly Ala Leu Leu Cys Asn Thr Val Ser Thr Glu Lys  
 165 170 175  
 Asn Leu Ala Phe Ala Leu Asp Ala Val Ile Lys Gln Ser Val Trp Arg  
 180 185 190  
 Phe Arg Asn Pro Asp Leu Phe Ala Tyr Glu Arg Glu Ala Leu Glu Ala  
 195 200 205  
 Ser Val Thr Asp Ala Leu Val Ser Tyr Val Ser Asn Leu Asp Met Ile  
 210 215 220  
 Pro Tyr Thr Ser Ser Gln Gly Ile Val Ile Glu Asp Ser Ser Ile Val  
 225 230 235 240  
 Arg Thr Ser Gln Glu His Thr Leu Ile Val Asn Cys Ala Ala Phe Asp  
 245 250 255  
 Lys Leu Ala Ser Gln Ile Glu Phe Leu Cys Pro Ser Asp Val Leu Pro  
 260 265 270  
 Ile Ser Gly Lys Asp Pro Leu Ile Ser Asp Asp Glu Asp Glu Glu Leu  
 275 280 285  
 Asn Pro Lys Val Ser Ser Ala Ala Asp Ser Lys Asp Lys Thr  
 290 295 300

<210> 458  
 <211> 414  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 458  
 Ile Pro Cys Thr Phe Glu Ser Lys Arg Lys Phe Leu Met Thr His Cys  
 1 5 10 15  
 Leu His Gly Trp Phe Ser Val Val Arg His His Phe Val Gln Ala Phe  
 20 25 30  
 Asn Phe Ser Arg Pro Leu Tyr Ser Arg Ile Thr His Phe Ala Leu Gly  
 35 40 45  
 Val Ile Lys Ala Ile Pro Ile Val Gly His Leu Val Met Gly Val Asp  
 50 55 60  
 Trp Leu Ile Ser His Cys Phe Glu Arg Gly Val Ser His Pro Gly Phe  
 65 70 75 80

Pro	Ser	Asp	Ile	Ala	Pro	Ile	Leu	Lys	Val	Glu	Lys	Ile	Ala	Gly	Arg	
				85					90					95		
Asp	His	Ile	Ser	Arg	Ile	Glu	Asn	Gln	Leu	Lys	Ser	Leu	Arg	Lys	Thr	
			100					105						110		
Ile	Glu	Val	Glu	Asp	Leu	Asp	Lys	Val	His	Gly	Gln	Tyr	Gln	Glu	Asn	
			115				120						125			
Pro	Tyr	Ala	Asp	Met	Ala	Ser	Ser	Glu	Val	Leu	Lys	Leu	Asp	Lys	Gly	
	130					135						140				
Val	His	Val	Ser	Glu	Leu	Gly	Lys	Ala	Phe	Ser	Arg	Val	Arg	Asn	Arg	
145					150					155					160	
Ile	Thr	Arg	Ser	Tyr	Ser	Tyr	Ala	Pro	Thr	Pro	Gln	Leu	Asp	Ser	Ile	
				165					170						175	
Ala	Ile	Val	Gly	Ile	Asp	Leu	Val	Ser	Pro	Glu	Glu	Gln	Glu	Asn	Leu	
			180					185						190		
Val	Arg	Leu	Ala	Asn	Glu	Val	Ile	Gln	Leu	Tyr	Pro	Lys	Ser	Lys	Thr	
	195						200						205			
Thr	Leu	Tyr	Leu	Leu	Ile	Asp	Phe	Asn	Lys	Glu	Trp	Val	Gly	Asp	Ile	
	210					215					220					
Ser	Ser	Asp	Lys	Glu	Lys	Gln	Leu	Arg	Ser	Leu	Gly	Leu	His	Ser	Glu	
225					230					235					240	
Val	Gln	Cys	Leu	Ser	Val	Leu	Glu	Pro	Gln	Gly	Ala	Glu	Gly	Glu	Asp	
				245					250						255	
Thr	Lys	His	Phe	Asp	Leu	Met	Val	Gly	Cys	Tyr	Gly	Lys	Asp	Ser	Tyr	
			260					265						270		
Leu	Arg	Glu	Gly	Lys	Ile	Leu	Gln	Ala	Leu	Gly	Thr	Ser	Leu	Gly		
	275						280					285				
Thr	Val	Pro	Trp	Val	Asn	Val	Met	His	Thr	Leu	Pro	Ser	Arg	Tyr	Arg	
	290					295					300					
Ser	Arg	Leu	Ser	Leu	Pro	Ile	Asn	Thr	Glu	Lys	Asp	Lys	Thr	Glu	Leu	
305					310					315					320	
Tyr	Lys	Glu	Ile	Ser	Arg	Thr	His	His	Gln	Leu	His	Thr	Leu	Gly	Met	
				325					330						335	
Gly	Leu	Gly	Ala	Gln	Asp	Ser	Gly	Leu	Leu	Leu	Asp	Arg	Gln	Arg	Leu	
			340				345						350			
His	Ala	Pro	Leu	Ser	Gln	Gly	Ser	His	Cys	His	Ser	Tyr	Leu	Ala	Asp	
		355					360					365				
Leu	Thr	His	Glu	Glu	Leu	Lys	Ile	Leu	Leu	Phe	Ser	Ala	Phe	Val	Asp	
	370					375					380					
Ala	Lys	Asn	Ile	Ser	Lys	Lys	Glu	Leu	Arg	Glu	Val	Ser	Leu	Asn	Phe	
385					390					395					400	
Ala	Asn	Asp	Thr	Ser	Val	Glu	Cys	Gly	Cys	Ala	Phe	Tyr	Phe			
				405					410							

<210> 459

<211> 589

<212> PRT

<213> Chlamydia pneumoniae

<400> 459

Val	Phe	Leu	Pro	Ser	Arg	Val	Met	Ala	Ser	Cys	Leu	Ser	Ala	Trp	Phe	
1				5					10					15		
Ser	Ile	Val	Arg	Glu	His	Phe	Tyr	Arg	Ala	Phe	Asp	Phe	Ser	Leu	Pro	
			20					25					30			
Phe	Cys	Ala	Arg	Ile	Thr	Glu	Phe	Val	Leu	Gly	Val	Ile	Lys	Gly	Ile	
		35					40					45				
Pro	Val	Val	Gly	His	Ile	Ile	Val	Gly	Ile	Glu	Trp	Leu	Val	Ser	Arg	
	50					55					60					
Tyr	Leu	Glu	Ser	Phe	Val	Thr	Lys	Pro	Thr	Phe	Val	Ser	Asp	Val	Val	
65					70					75					80	
Ser	Leu	Leu	Lys	Thr	Glu	Lys	Val	Ala	Gly	Arg	Asp	His	Ile	Ala	Arg	
				85					90					95		



Val	Val	Glu	Thr	Leu	Lys	Arg	Gln	Arg	Val	Ala	Val	Ala	Pro	Glu	Asp	
			100					105					110			
Glu	Asp	Lys	Val	His	Gly	Lys	Ile	Pro	Val	His	Pro	Phe	Gly	Gly	Ile	
		115					120					125				
Gln	Pro	Val	Glu	Val	Leu	Thr	Leu	Tyr	Pro	Glu	Val	Gln	Asp	Ala	Thr	
		130				135					140					
Leu	Gly	Leu	Ala	Phe	Ser	Lys	Ile	Arg	Asn	Arg	Val	Arg	Gln	Ala	Tyr	
145					150				155						160	
Leu	Gln	Ala	Pro	Arg	Pro	Lys	Leu	Gln	Lys	Ile	Tyr	Ile	Ile	Gly	Asn	
				165					170					175		
Asp	Met	Asn	Pro	Phe	Glu	Val	Asp	Asp	Phe	Leu	His	Leu	Ala	Arg	Leu	
			180				185						190			
Cys	Asn	Glu	Thr	Gln	Arg	Leu	Tyr	Pro	Asp	Ala	Thr	Ile	Ser	Leu	Tyr	
		195				200					205					
Leu	Thr	Ala	Ser	Gly	Gly	Arg	Asn	Ala	Met	Asp	Lys	Lys	Asn	Arg	Lys	
	210					215					220					
Leu	Leu	Ser	Asp	Cys	Glu	Leu	Asn	Pro	Lys	Ile	Ala	Cys	Leu	Asp	Phe	
225					230					235					240	
Asn	Gln	Gly	Asp	Val	Val	Lys	Gln	Ala	Thr	Cys	Asp	Cys	Trp	Met	Val	
				245					250					255		
Tyr	His	Gly	Glu	Asn	Asp	Gln	Gly	Thr	Leu	Asn	Gln	Ile	Gln	Glu	Glu	
			260				265						270			
Leu	Glu	Lys	Ser	Gly	Glu	Glu	Thr	Pro	Trp	Ile	His	Val	Gly	Gln	Lys	
	275						280					285				
Pro	Leu	Ser	Gln	Ser	Leu	Trp	Asp	Phe	Ser	Pro	Phe	Ser	Ser	Leu	Glu	
	290				295						300					
Met	Lys	Gly	Asp	Lys	Glu	Lys	Ala	Leu	Glu	Tyr	Ser	Glu	Leu	Glu	Lys	
305					310					315					320	
Glu	Gln	Leu	Tyr	Ser	Arg	Leu	Val	Tyr	Val	Gly	Glu	Arg	Ser	Ser	Val	
				325				330						335		
Leu	Ser	Leu	Gly	Phe	Gly	Asp	Ser	Arg	Ser	Gly	Ile	Leu	Met	Asp	Pro	
			340				345						350			
Lys	Arg	Val	His	Ala	Pro	Leu	Ser	Glu	Gly	His	Tyr	Cys	His	Ser	Tyr	
	355					360						365				
Leu	Ala	Asp	Leu	Glu	Asn	Pro	Gly	Leu	Gln	Lys	Thr	Ile	Leu	Ala	Ala	
	370				375						380					
Phe	Leu	Asn	Pro	Lys	Glu	Leu	Ser	Ser	Thr	Ile	Leu	Gln	Pro	Ile	Ser	
385					390					395					400	
Leu	Asn	Leu	Ile	Leu	Asn	Ser	Lys	Thr	Tyr	Leu	Arg	Gln	His	Phe	Gly	
				405				410						415		
Phe	Phe	Glu	Arg	Met	Ser	Arg	Ser	Asp	Arg	Asn	Val	Val	Val	Val	Val	
			420					425					430			
Cys	Asp	Ser	Trp	Trp	Gly	Thr	Asp	Trp	Lys	Glu	Glu	Pro	Ser	Phe	Gln	
		435					440					445				
His	Phe	Ile	Met	Glu	Leu	Glu	Cys	Arg	Gly	Tyr	Ser	His	Phe	Asn	Ile	
	450				455					460						
Phe	Ala	Phe	Arg	Ser	Asn	Ser	Met	Cys	Val	Glu	Glu	Arg	Arg	Ile	Leu	
465					470					475					480	
Asn	Glu	Ser	Ser	Gln	Glu	Lys	Ala	Phe	Thr	Met	Ile	Phe	Cys	Glu	Asp	
				485				490						495		
Ser	Val	Ser	Gln	Gly	Asp	Ile	Arg	Cys	Leu	His	Leu	Ala	Ser	Glu	Gly	
			500					505					510			
Met	Leu	Cys	Gly	Lys	Glu	Cys	Tyr	Ala	Val	Asp	Val	Tyr	Thr	Ser	Gly	
		515					520					525				
Cys	Ala	Asn	Phe	Met	Met	Glu	Glu	Val	Leu	Thr	Leu	Glu	Arg	Glu	Ser	
	530					535					540					
Asn	Leu	Trp	Asn	Arg	Lys	His	Gly	Leu	Trp	Lys	Arg	Glu	Val	Arg	Lys	
545					550					555					560	
Gln	Lys	Gln	Glu	Ala	Ala	Leu	Asp	Gln	Asp	Glu	Ser	Glu	Ile	Tyr	Val	
				565					570					575		

Cys Asn Gln Leu Thr Ala Gln Gln Asn Phe Ala Cys Ser  
 580 585

<210> 460  
 <211> 703  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 460  
 Tyr Phe Leu Cys Cys Tyr Leu Lys Leu Phe Val Ser Asn Phe Ile Phe  
 1 5 10 15  
 Phe Val Val Met Pro Ile Pro Tyr Ile Ser Ser Trp Ile Ser Thr Val  
 20 25 30  
 Arg Gln His Phe Val Lys Ala Phe Asp Phe Ser Arg Pro Phe Cys Ser  
 35 40 45  
 Arg Val Thr Asn Phe Ala Leu Gly Val Ile Lys Ala Ile Pro Ile Val  
 50 55 60  
 Gly His Ile Val Met Gly Met Glu Trp Leu Val Ser Ser Cys Val Ala  
 65 70 75 80  
 Gly Ile Ile Thr Arg Ser Ser Phe Thr Ser Asp Val Val Gln Ile Val  
 85 90 95  
 Lys Thr Glu Lys Ala Leu Gly Arg Asp His Ile Ser Arg Val Ala Glu  
 100 105 110  
 Ile Leu Gln Arg Glu Arg Gly Thr Ile Thr Pro Glu Asn Gln Asp Lys  
 115 120 125  
 Val His Gly Lys Phe Pro Val Cys Pro Phe Gly Arg Leu Lys Ser Glu  
 130 135 140  
 Glu Thr Leu Lys Leu Lys Pro Gly Glu Arg Glu Gly Thr Leu Asp Thr  
 145 150 155 160  
 Val Phe Ser Pro Ile Arg Thr Arg Val Thr Arg Ala Tyr Leu Gln Ala  
 165 170 175  
 Pro Arg Pro Glu Ile Arg Thr Ile Ser Ile Val Gly Ser Lys Leu Lys  
 180 185 190  
 Thr Pro Gln Asp Phe Ser Gln Phe Val Ser Leu Ala Asn Glu Thr Gln  
 195 200 205  
 Arg Leu His Pro Glu Ala Leu Val Cys Leu Tyr Leu Thr Gly Leu Asn  
 210 215 220  
 Arg Glu Ser Gln Met Cys Asp Thr Thr Thr Ala Glu Lys Lys Gln Tyr  
 225 230 235 240  
 Leu His Asn Ser Gly Leu Asp Ser Arg Ile Gln Cys Lys Asp Ser Lys  
 245 250 255  
 Glu Asp Asp Ala Gly Ser Pro Glu Asn Pro Glu Leu Trp Ile Gly Tyr  
 260 265 270  
 Tyr Ser Arg Glu Gln Gln His Asn Ile Asp Gly Gln Tyr Ile Gln Gln  
 275 280 285  
 Cys Leu Gly Lys Ser Ala Asp Pro Ile Pro Trp Ile His Val Thr Glu  
 290 295 300  
 Asp Thr Lys Asp Phe Tyr Tyr Pro Pro Asn Phe Thr Ser Tyr Ser His  
 305 310 315 320  
 Thr Arg Gln Ser Thr Asp Pro Thr Ser Pro Pro Arg Leu Pro Glu Ser  
 325 330 335  
 Glu Gly Asp Lys Asp Ser Leu Tyr Gly Gln Leu Ser Arg Ser Tyr His  
 340 345 350  
 His Glu Tyr Met Leu Gly Leu Gly Leu Lys Pro Glu Asp Ala Gly Leu  
 355 360 365  
 Leu Met Asp Pro Asp Arg Ile Tyr Ala Pro Leu Ser Gln Gly His Tyr  
 370 375 380  
 Cys His Ser Tyr Leu Ala Asp Ile Glu Asn Glu Asp Leu Arg Thr Leu  
 385 390 395 400  
 Val Leu Ser Pro Phe Leu Asp Pro Gly Asn Leu Ser Ser Glu Asp Leu  
 405 410 415

Arg Pro Val Ala Phe Asn Ile Ala Arg Leu Pro Leu Glu Leu Asp Ser  
 420 425 430  
 Leu Phe Phe Arg Leu Val Ala Gly Gln Gln Glu Gly Arg Asn Ile Val  
 435 440 445  
 Thr Leu Ala His Gly Thr Pro Arg Pro Glu Asp Leu Asp Pro Asp Ser  
 450 455 460  
 Met Asn Ile Leu Thr Arg Arg Leu Gln Met Ser Gly Tyr Ser Tyr Leu  
 465 470 475 480  
 Asn Ile Phe Ser Tyr Lys Ser Arg Lys Met Ile Val Lys Glu Arg Gln  
 485 490 495  
 Phe Phe Gly Asp Arg Ser Glu Gly Lys Ser Phe Thr Leu Ile Leu Phe  
 500 505 510  
 Glu Asp Pro Ile Ser Ala Ala Asp Phe Arg Cys Leu Gln Leu Ala Ala  
 515 520 525  
 Glu Gly Met Val Ala Lys Asp Leu Pro Ser Val Ala Asp Ile Cys Ala  
 530 535 540  
 Ser Gly Cys Ser Cys Ile Gln Phe Ser Glu Met Gln Ser Pro Gln Ala  
 545 550 555 560  
 Ile Glu Tyr Arg Gln Trp Glu Ala Arg Val Glu Asp Glu Ala Gly Glu  
 565 570 575  
 Glu Ala Arg Glu Pro Val Ile Tyr Ser Gln Asp Gln Leu Ser Ser Met  
 580 585 590  
 Leu Thr Thr Gln Gln Asn Phe Val Phe Ser Leu Asp Ala Val Val Lys  
 595 600 605  
 Gln Ala Ile Trp Arg Phe Arg Ser Lys Gly Leu Leu Thr Met Glu Arg  
 610 615 620  
 Lys Ala Leu Gly Glu Glu Phe Leu Thr Ala Ile Phe Ser Tyr Leu Gly  
 625 630 635 640  
 Ser Gln Glu Arg Asn Glu Asn Met Gly Lys Arg Thr Thr Glu Glu His  
 645 650 655  
 Glu Val Val Ile Ser Phe Glu Glu Leu Asp Arg Met Val Gln Val Leu  
 660 665 670  
 Pro Ala Glu Val Pro Ala Asp Ser Gly Asn Asp Pro Thr Arg Pro Val  
 675 680 685  
 Pro Asn Pro Asp Ser Asn Pro Asp Ser Ser Gln Asn Glu Gly Ser  
 690 695 700

<210> 461

<211> 148

<212> PRT

<213> Chlamydia pneumoniae

<400> 461

Ser Thr Lys Ile Gln Met His Pro Gly Leu Arg Asn Trp Arg Thr Ser  
 1 5 10 15  
 Thr Asn Lys Leu Arg Glu Glu Gly Ser Val Ser Phe Arg Glu Tyr Phe  
 20 25 30  
 Arg Ala Tyr Met Cys Asp Lys Ile Val Ala Gln Lys Asn Phe Leu Phe  
 35 40 45  
 Thr Leu Asp Ala Val Ile Lys Gln Ala Gly Trp Arg Ser Gln Glu Lys  
 50 55 60  
 Leu Asn Leu Phe Tyr Val Glu Ser Gln Ala Leu Gly Arg Glu Ile Lys  
 65 70 75 80  
 Val Ser Leu Glu Glu Tyr Ile Gln Ser Met Val Gly Ile Leu Gly Ser  
 85 90 95  
 Gln Arg Thr Lys Lys Ser Phe Lys Phe Ser Val Asp Phe Thr Pro Leu  
 100 105 110  
 Glu Gln Ala Leu Gln Glu Arg Cys Ser Ser Asp Asp Asp Glu Asp Ala  
 115 120 125  
 Thr Ala Thr Ser Thr Ala Thr Gly Ala Thr Ala Ser Pro Thr Asp Met  
 130 135 140

His Glu Asp Glu  
145

<210> 462  
<211> 283  
<212> PRT  
<213> Chlamydia pneumoniae

<400> 462  
Val Ile Gln His Leu Leu Asn Phe Ala Leu Glu Glu Thr Pro Ser Ile  
1 5 10 15  
Ser Val Gln Tyr Gln Glu Gln Glu Lys Leu Ser Pro Cys Asp His Ser  
20 25 30  
Pro Glu Ile Gly Lys Lys Lys Arg Trp Asn Lys Leu Glu Ser Phe Ser  
35 40 45  
Thr Tyr Cys Ser Leu Phe Met Ser Val Lys Asp His Tyr Lys Leu Asn  
50 55 60  
Leu Gly Ile Gln Asn Ser Leu Ser Gly Trp Leu Leu Asp Pro Tyr Arg  
65 70 75 80  
Val Cys Ala Pro Leu Ser Ser Pro Tyr Ser Cys Pro Ser Tyr Leu Leu  
85 90 95  
Asp Leu Gln Asn Lys Glu Leu Arg Arg Ser Leu Leu Ser Thr Phe Leu  
100 105 110  
Asp Pro Lys Asn Leu Thr Ser Glu Thr Phe Arg Ser Val Ser Ile Asn  
115 120 125  
Phe Gly Asn Ser Ser Phe Gly Gln Arg Trp Ser Glu Phe Leu Ser Arg  
130 135 140  
Val Leu His Asp Glu Lys Glu Lys His Val Ala Val Val Cys Asn Asp  
145 150 155 160  
Ala Lys Leu Leu Glu Glu Gly Leu Ser Pro Glu Ala Leu Ser Leu Leu  
165 170 175  
Glu Glu Asp Leu Arg Glu Ser Gly Tyr Ser Tyr Leu Asn Ile Leu Ser  
180 185 190  
Val Ser Pro Glu Gly Val Ser Lys Val Gln Glu Arg Gln Ile Leu Arg  
195 200 205  
Arg Asp Leu Gln Gly Arg Ser Phe Thr Val Met Ile Thr Asp Leu Pro  
210 215 220  
Leu Gly Ser Glu Asp Ile Arg Ser Leu Gln Leu Ala Ser Asp Arg Ile  
225 230 235 240  
Leu Val Ser Ser Ser Leu Asp Ala Ala Asp Ala Cys Ala Ser Gly Cys  
245 250 255  
Lys Val Leu Val Tyr Glu Asn Pro Asn Ala Ser Trp Ala Gln Glu Leu  
260 265 270  
Glu Asn Phe Tyr Lys Gln Val Glu Arg Arg Arg  
275 280

<210> 463  
<211> 268  
<212> PRT  
<213> Chlamydia pneumoniae

<400> 463  
Ile Ser Ile Val Ala Cys Pro Ser Ile Ser Ser Trp Phe Thr Val Val  
1 5 10 15  
Arg Gln His Phe Val Asn Ala Phe Asp Phe Thr His Pro Val Cys Ser  
20 25 30  
Arg Ile Thr Asn Phe Ala Leu Gly Ile Ile Lys Ala Ile Pro Val Leu  
35 40 45  
Gly His Ile Val Met Gly Ile Glu Trp Leu Ile Ser Trp Ile Pro Arg  
50 55 60

His	Thr	Val	Arg	His	Gly	Met	Phe	Thr	Ser	Asp	Val	Ser	Ser	Ala	Ile
65					70					75					80
Lys	Val	Glu	Gln	Thr	Arg	Gly	His	Asn	Cys	Leu	Ala	Pro	Leu	Glu	Ala
				85					90					95	
Tyr	Leu	Ser	Ser	Leu	Arg	Val	Pro	Ile	Ser	Gln	Glu	Asp	Leu	Gly	Lys
			100					105					110		
Val	His	Gly	Arg	Thr	Pro	Glu	Asp	Pro	Phe	Val	Asp	Ile	Thr	Pro	Thr
		115					120					125			
Glu	Ile	Val	Gln	Leu	Leu	Pro	Asp	Glu	Glu	Leu	Ser	Thr	Val	Asp	Glu
	130					135					140				
Ala	Leu	Gln	Gly	Val	Arg	Ser	Arg	Leu	Thr	Tyr	Ala	Tyr	Arg	Ser	Val
145					150					155					160
Glu	Lys	Pro	Met	Ile	Gln	Asp	Leu	Ala	Leu	Val	Gly	Phe	Gly	Leu	Arg
			165						170					175	
Asp	Ser	Ala	Asp	Leu	Ile	Asn	Phe	Val	Arg	Leu	Ala	Asn	Gly	Val	Gln
			180					185					190		
Asn	His	Tyr	Pro	His	Thr	Lys	Val	Lys	Leu	Tyr	Leu	Ala	Lys	Asn	Leu
		195					200					205			
Ala	Asp	Val	Trp	Asp	Cys	Glu	Ile	Ser	Glu	Glu	Glu	Lys	Gly	Gln	Leu
	210					215					220				
Arg	Ala	Leu	Gly	Leu	Asp	Pro	Lys	Ile	Glu	Ser	Ile	Ser	Leu	Thr	Ser
225					230					235					240
Ala	Gly	Leu	Pro	Ser	Val	Pro	Glu	Val	Ala	Thr	Val	Asp	Phe	Met	Ile
				245					250					255	
Thr	Cys	Tyr	Gly	Lys	Asp	Gln	Glu	Val	Gln	Asp	Pro				
			260					265							

<210> 464

<211> 696

<212> PRT

<213> Chlamydia pneumoniae

<400> 464

Leu	Ile	Phe	Tyr	Leu	Phe	Leu	Asn	Leu	Tyr	Ile	Ala	Cys	Val	Arg	Phe
1				5					10					15	
His	Phe	Gln	Cys	Trp	Phe	Asp	Pro	Met	Ala	Cys	Tyr	Ile	Ser	Ile	Trp
			20					25					30		
Ile	Ser	Thr	Val	Lys	Gln	His	Phe	Ile	Arg	Ala	Phe	Asp	Phe	Thr	Arg
		35					40					45			
Pro	Leu	Gly	Ser	Arg	Ile	Thr	Asn	Phe	Ala	Leu	Gly	Val	Ile	Lys	Ala
	50					55					60				
Ile	Pro	Ile	Leu	Gly	Cys	Val	Val	Ile	Gly	Val	Ser	Trp	Leu	Val	Ser
65					70					75					80
Thr	Cys	Ser	Ala	Arg	Phe	Gly	Lys	Pro	Ala	Phe	Thr	Ser	Asp	Val	
				85				90					95		
Ala	Ser	Ile	Val	Lys	Ile	Glu	Lys	Thr	Arg	Gly	Tyr	Asn	Pro	Leu	Ala
			100					105					110		
Trp	Val	Glu	Gln	Tyr	Leu	Arg	Gln	Leu	Arg	Val	Arg	Leu	Pro	Glu	Gly
		115					120					125			
Asp	Leu	Gly	Lys	Ile	His	Gly	Lys	Val	Ser	Arg	Asp	Tyr	Val	Cys	Asp
	130					135					140				
Arg	Thr	Pro	Gln	Glu	Asn	Leu	Asn	Met	Val	Pro	His	Gln	Tyr	Leu	Gly
145					150					155					160
Glu	Leu	Gly	Arg	Ala	Phe	Tyr	Gly	Ile	Arg	Asn	Arg	Val	Thr	Lys	Ala
				165					170					175	
Tyr	Gln	Arg	Val	Thr	Pro	Leu	Glu	Val	Pro	Cys	Leu	Thr	Leu	Val	Gly
			180					185					190		
Phe	Asp	Ile	Leu	Asp	Pro	Glu	Asp	Gln	Val	Asn	Phe	Val	Arg	Leu	Ala
		195					200					205			
Asn	Gly	Ile	Gln	Thr	Gln	Tyr	Pro	Gln	Thr	Gln	Ile	Lys	Leu	Tyr	Leu
	210					215					220				

Ile	Ser	Ile	Gln	Lys	Ile	Trp	Asn	Gln	Cys	Asp	Gly	Thr	Ile	Ser	Gln
225					230					235					240
Glu	Lys	Glu	Gln	Gln	Leu	Arg	Ser	Leu	Gly	Leu	Asp	Ala	Lys	Ile	Lys
				245					250					255	
Cys	Val	Ser	Ala	Pro	Ala	Leu	Leu	Leu	Gln	Lys	Tyr	Leu	Gln	Ser	Glu
			260					265					270		
Asn	Leu	Pro	Ser	Cys	Asp	Leu	Leu	Ile	Asn	Tyr	Tyr	Gly	Lys	Gln	Gln
		275				280						285			
Ser	Val	Arg	Asp	Val	Asp	Ser	Ile	Lys	Ser	Leu	Leu	Asn	Leu	Ser	Ser
	290					295					300				
Glu	His	Ile	Pro	Ala	Ile	Ser	Val	Thr	Tyr	Arg	Pro	Asp	Asp	Pro	Phe
305					310					315					320
Tyr	Ser	Tyr	Tyr	Phe	Phe	Pro	Gly	Ser	Gln	Gly	Gly	Thr	Ala	Pro	Asp
				325					330					335	
Gln	Arg	Ile	Pro	Trp	Ser	Glu	Gln	Glu	His	Leu	Gln	Thr	Tyr	Thr	Thr
			340					345					350		
Leu	Ser	Asn	Pro	Arg	Cys	Asp	Arg	Tyr	Ala	Val	His	Leu	Gly	Met	Glu
		355					360						365		
Asp	Phe	Ala	Ser	Gly	Val	Phe	Leu	Asp	Pro	Leu	Arg	Val	Ser	Ala	Pro
	370					375					380				
Leu	Ser	Gly	Glu	Tyr	Ser	Cys	Pro	Ser	Tyr	Leu	Leu	Asp	Leu	Lys	Ser
385					390					395					400
Glu	Glu	Leu	Arg	Cys	Phe	Leu	Leu	Ser	Ala	Phe	Ile	Asp	Pro	Asn	Asn
				405					410					415	
Ser	Gly	Gln	Gly	Asn	Pro	Arg	Pro	Met	Ser	Ile	Asn	Phe	Gly	Asn	Ser
			420					425					430		
Pro	Leu	Gly	Gln	Arg	Trp	Ser	Glu	Phe	Leu	Ser	Arg	Val	Leu	His	Asp
		435					440						445		
Glu	Thr	Glu	Lys	His	Val	Ala	Val	Val	Cys	Asn	Asn	Pro	Gln	Leu	Ile
	450					455					460				
Lys	Lys	Ser	Phe	Pro	Ser	His	Ser	Leu	Ser	Leu	Leu	Glu	Asn	Glu	Leu
465					470					475					480
Glu	Glu	Ser	Gly	Tyr	Ser	Tyr	Leu	Asn	Ile	Val	Ser	Val	Ser	Gln	Glu
				485					490					495	
Arg	Thr	Cys	Val	Lys	Glu	Arg	Arg	Ile	Leu	Ser	Ser	Asp	Pro	Ser	Gly
			500					505					510		
Arg	Ser	Phe	Thr	Val	Ile	Leu	Thr	Asp	Leu	Pro	Glu	Gly	Ser	Ser	Asp
		515					520						525		
Ile	Arg	Asn	Leu	Gln	Leu	Ala	Ser	Asp	Arg	Ile	Leu	Val	Ser	Ser	Ala
	530					535					540				
Leu	Asp	Ala	Ala	Asp	Ala	Cys	Ala	Ser	Glu	Cys	Lys	Ile	Leu	Glu	Tyr
545					550					555					560
Glu	Asp	Pro	Glu	Gln	Glu	Trp	Ala	Gln	Gln	Tyr	Ala	Ser	Phe	Tyr	Arg
				565					570					575	
Asn	Ile	Asp	Arg	Ala	Gly	Asp	Leu	Gln	Arg	Gln	Gly	Ile	Pro	Gly	Glu
			580					585					590		
Pro	Leu	Gly	Val	Ser	Ala	Ser	Thr	Arg	Val	Val	Leu	Glu	Lys	Asp	Ile
		595					600					605			
Val	Phe	Asn	Leu	Asn	Ala	Val	Ile	Gln	Gln	Ala	Met	Trp	Lys	Phe	Lys
	610					615					620				
Lys	Arg	Asp	Leu	Phe	Ala	Val	Glu	Ser	Gln	Ala	Leu	Gly	Asp	Asp	Met
625					630					635					640
Arg	Arg	Ala	Leu	Glu	Gly	Tyr	Ile	Gly	Ser	Ser	Leu	Leu	Val	Glu	Gly
				645					650					655	
Thr	Ile	Gln	Pro	Gln	Val	Ala	Cys	Asn	Val	Asn	Val	Ser	Phe	Ala	Thr
			660					665					670		
Leu	Asp	Glu	Ala	Val	Cys	Ala	Ala	Cys	Asp	Ser	Ala	Gln	Asp	Ala	Pro
		675					680					685			
Ser	Glu	Glu	Asn	Asn	Thr	Asp	Asp								
	690						695								

<210> 465  
 <211> 430  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 465  
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 1 5 10 15  
 Cys Arg Thr Pro Arg Val Asn Ile Ser Thr Val Gly Ile Pro Ile Asp  
 20 25 30  
 Glu Thr Ser Asn Ala Phe Val Asp Ser Met Met Lys Gln Gly Val Gly  
 35 40 45  
 Gln Asp Ala Lys Glu Leu Tyr Thr Phe Leu Ser Arg Gly Asn Glu His  
 50 55 60  
 Tyr Gln Pro Cys Leu Trp Phe Ser Leu Glu Glu Leu Gly Phe Leu  
 65 70 75 80  
 Phe Asp Glu Lys Met Leu Cys Ala Pro Leu Ser Glu Asp His Tyr Cys  
 85 90 95  
 His Ser Tyr Leu Val Asp Leu Val Asp Gln His Leu Lys Asp Leu Ile  
 100 105 110  
 Leu Ser Met Phe Leu Asp Pro Gln Asn Ile Ser Ala Gly Glu Leu Leu  
 115 120 125  
 Lys Val Ser Ile Asn Val Gly Asp Ser Phe Ser Pro Leu Gln Gln Lys  
 130 135 140  
 Asp Phe Leu Ser Met Val Leu Arg Asp Glu Thr Gly Lys Asn Val Val  
 145 150 155 160  
 Val Val Phe Lys Gly Val Leu Ser Leu Pro Ala Thr Gln Val Cys Lys  
 165 170 175  
 Leu Val Glu Glu Leu Asn Ser Lys Asp Tyr Ser Tyr Leu Asn Ile Phe  
 180 185 190  
 Ser Cys His Gly Asp Ser Ser Pro Gln Leu Leu Phe Arg Lys Glu Leu  
 195 200 205  
 Glu Gly Thr Ser Gly Arg Tyr Phe Thr Val Ile Cys Ala Leu Tyr Leu  
 210 215 220  
 Gly Asp Thr Asp Met Arg Ser Leu Gln Leu Ala Ser Glu Arg Ile Met  
 225 230 235 240  
 Val Ser Arg Glu Phe Asp Leu Val Asp Ala Tyr Ala Ala Arg Cys Lys  
 245 250 255  
 Leu Leu Lys Ile Asp His Thr Asn Trp Arg Pro Gly Thr Phe Ser Arg  
 260 265 270  
 His Ala Asp Phe Ala Asp Ala Val Asp Val Ser Ala Gly Phe Asn Ser  
 275 280 285  
 Arg Glu Phe Lys Leu Ile Thr Gln Ala Asn Gln Gly Ile Leu Glu Ser  
 290 295 300  
 Gly Glu Leu Pro Leu Pro Ser Lys Thr Phe Trp Glu Gly Phe Leu Ala  
 305 310 315 320  
 Phe Cys Asp Arg Val Thr Val Thr Arg His Phe Ile Pro Met Leu Asp  
 325 330 335  
 Ala Ala Ile Lys Gln Ala Val Trp Thr His Lys His Pro Ser Leu Ile  
 340 345 350  
 Asp Lys Glu Cys Glu Ala Leu Asp Leu Lys Thr Gln Cys Leu Pro Ser  
 355 360 365  
 Ile Val Ser Tyr Leu Glu Tyr Val Thr Asn Ser His Glu Lys Thr Ser  
 370 375 380  
 Lys Gly Pro Phe Ile Gln Lys Glu Ile Ile Ala Asp Cys Ser Pro Leu  
 385 390 395 400  
 Lys Glu Ala Leu Phe Pro Gly Ser Asp Glu Asp Val Pro Ser Thr Ser  
 405 410 415  
 Glu Asp Pro Ser Asp His Pro Ser Asp Leu Glu Asp Ser  
 420 425 430

<210> 466  
 <211> 186  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 466  
 Ser Leu Glu Thr Arg Gly Arg Phe Thr Glu Ile Cys Leu Gln Leu Leu  
 1 5 10 15  
 Phe Phe Asp Ile Gln Ser Leu Lys Phe Leu Gln Leu Phe Ser Glu Gly  
 20 25 30  
 Thr Ala Leu Asn Leu Phe Arg Ile Phe Ala Pro Leu Arg Asn Arg Val  
 35 40 45  
 Thr Thr Glu Tyr Ser Arg Ala Arg Gln Pro Asp Leu His Arg Ile Ala  
 50 55 60  
 Ile Val Tyr Ile Gly Val Leu Asp Ser Glu Ser Ser Lys Ile Leu Glu  
 65 70 75 80  
 Arg Leu Ile Ser Tyr Met Ser Cys Ile Tyr Ser Glu Ser Gln Met Tyr  
 85 90 95  
 Leu Arg Phe Phe Met Gly Lys Asn Val Asn Gln Ser Ala Val Leu Ser  
 100 105 110  
 Lys Leu His Val Glu Asn Leu His Ile Arg Cys Gly Phe Phe Ser Glu  
 115 120 125  
 Asp Ala Val Pro Glu Ser Glu Pro Phe Asp Leu Ser Ile Tyr Val His  
 130 135 140  
 Thr Asp Arg Ser Cys Pro Leu Pro Thr Lys Lys Arg Ser Ser Ser Trp  
 145 150 155 160  
 Glu Leu Gln Thr Val Glu Leu Pro Glu Ser Ile Tyr Pro Gln Ser Glu  
 165 170 175  
 Phe Leu Leu Met Arg Pro Arg Met Leu Ser  
 180 185

<210> 467  
 <211> 136  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 467  
 Leu Leu Glu Asn Asn Arg Phe Phe Leu Phe Phe Lys Val Lys Tyr Phe  
 1 5 10 15  
 Leu Lys Asp Ser Phe Leu Met Ser Tyr Tyr Phe Ser Leu Trp Tyr Leu  
 20 25 30  
 Lys Val Gln Gln His Phe Gln Ala Phe Asp Phe Thr Arg Ser Leu  
 35 40 45  
 Cys Ser Arg Ile Ser Asn Phe Ala Leu Gly Val Ile Ala Leu Leu Pro  
 50 55 60  
 Ile Ile Gly Gln Leu Tyr Val Gly Leu Asp Trp Leu Leu Ser Arg Ile  
 65 70 75 80  
 Lys Lys Pro Glu Phe Pro Ser Asp Val Asp Gln Ile Val Arg Val Glu  
 85 90 95  
 His Val Val Gly His Asp His Arg Ser Arg Val Glu Asp Ile Leu Lys  
 100 105 110  
 Arg Gln Arg Leu Ser Leu Glu Pro Arg Asp Glu Gly Lys Val His Gly  
 115 120 125  
 Asp Leu Pro Ser Ala Pro Phe Phe  
 130 135

<210> 468  
 <211> 940  
 <212> PRT  
 <213> Chlamydia pneumoniae



<400> 468

Thr	Ser	Met	Arg	Phe	Phe	Cys	Phe	Gly	Met	Leu	Leu	Pro	Phe	Thr	Phe
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Val	Leu	Ala	Asn	Glu	Gly	Leu	Gln	Leu	Pro	Leu	Glu	Thr	Tyr	Ile	Thr
			20					25					30		
Leu	Ser	Pro	Glu	Tyr	Gln	Ala	Ala	Pro	Gln	Val	Gly	Phe	Thr	His	Asn
		35					40					45			
Gln	Asn	Gln	Asp	Leu	Ala	Ile	Val	Gly	Asn	His	Asn	Asp	Phe	Ile	Leu
	50					55					60				
Asp	Tyr	Lys	Tyr	Tyr	Arg	Ser	Asn	Gly	Gly	Ala	Leu	Thr	Cys	Lys	Asn
65					70					75					80
Leu	Leu	Ile	Ser	Glu	Asn	Ile	Gly	Asn	Val	Phe	Phe	Glu	Lys	Asn	Val
			85					90						95	
Cys	Pro	Asn	Ser	Gly	Gly	Ala	Ile	Tyr	Ala	Ala	Gln	Asn	Cys	Thr	Ile
		100						105					110		
Ser	Lys	Asn	Gln	Asn	Tyr	Ala	Phe	Thr	Thr	Asn	Leu	Val	Ser	Asp	Asn
		115					120					125			
Pro	Thr	Ala	Thr	Ala	Gly	Ser	Leu	Leu	Gly	Gly	Ala	Leu	Phe	Ala	Ile
	130					135					140				
Asn	Cys	Ser	Ile	Thr	Asn	Asn	Leu	Gly	Gln	Gly	Thr	Phe	Val	Asp	Asn
145					150					155					160
Leu	Ala	Leu	Asn	Lys	Gly	Gly	Ala	Leu	Tyr	Thr	Glu	Thr	Asn	Leu	Ser
			165					170						175	
Ile	Lys	Asp	Asn	Lys	Gly	Pro	Ile	Ile	Ile	Lys	Gln	Asn	Arg	Ala	Leu
		180					185						190		
Asn	Ser	Asp	Ser	Leu	Gly	Gly	Gly	Ile	Tyr	Ser	Gly	Asn	Ser	Leu	Asn
		195					200					205			
Ile	Glu	Gly	Asn	Ser	Gly	Ala	Ile	Gln	Ile	Thr	Ser	Asn	Ser	Ser	Gly
	210					215					220				
Ser	Gly	Gly	Gly	Ile	Phe	Ser	Thr	Gln	Thr	Leu	Thr	Ile	Ser	Ser	Asn
225					230					235					240
Lys	Lys	Leu	Ile	Glu	Ile	Ser	Glu	Asn	Ser	Ala	Phe	Ala	Asn	Asn	Tyr
			245					250						255	
Gly	Ser	Asn	Phe	Asn	Pro	Gly	Gly	Gly	Gly	Leu	Thr	Thr	Thr	Phe	Cys
		260					265						270		
Thr	Ile	Leu	Asn	Asn	Arg	Glu	Gly	Val	Leu	Phe	Asn	Asn	Asn	Gln	Ser
	275						280					285			
Gln	Ser	Asn	Gly	Gly	Ala	Ile	His	Ala	Lys	Ser	Ile	Ile	Ile	Lys	Glu
	290					295					300				
Asn	Gly	Pro	Val	Tyr	Phe	Leu	Asn	Asn	Thr	Ala	Thr	Arg	Gly	Gly	Ala
305					310					315					320
Leu	Leu	Asn	Leu	Ser	Ala	Gly	Ser	Gly	Asn	Gly	Ser	Phe	Ile	Leu	Ser
			325					330						335	
Ala	Asp	Asn	Gly	Asp	Ile	Ile	Phe	Asn	Asn	Asn	Thr	Ala	Ser	Lys	His
		340					345						350		
Ala	Leu	Asn	Pro	Pro	Tyr	Arg	Asn	Ala	Ile	His	Ser	Thr	Pro	Asn	Met
	355						360					365			
Asn	Leu	Gln	Ile	Gly	Ala	Arg	Pro	Gly	Tyr	Arg	Val	Leu	Phe	Tyr	Asp
	370					375					380				
Pro	Ile	Glu	His	Glu	Leu	Pro	Ser	Ser	Phe	Pro	Ile	Leu	Phe	Asn	Phe
385					390					395					400
Glu	Thr	Gly	His	Thr	Gly	Thr	Val	Leu	Phe	Ser	Gly	Glu	His	Val	His
			405						410					415	
Gln	Asn	Phe	Thr	Asp	Glu	Met	Asn	Phe	Phe	Ser	Tyr	Leu	Arg	Asn	Thr
		420					425						430		
Ser	Glu	Leu	Arg	Gln	Gly	Val	Leu	Ala	Val	Glu	Asp	Gly	Ala	Gly	Leu
		435				440					445				
Ala	Cys	Tyr	Lys	Phe	Phe	Gln	Arg	Gly	Gly	Thr	Leu	Leu	Leu	Gly	Gln
	450					455					460				
Gly	Ala	Val	Ile	Thr	Thr	Ala	Gly	Thr	Ile	Pro	Thr	Pro	Ser	Ser	Thr
465					470					475					480

Pro	Thr	Thr	Val	Gly	Ser	Thr	Ile	Thr	Leu	Asn	His	Ile	Ala	Ile	Asp	
				485					490					495		
Leu	Pro	Ser	Ile	Leu	Ser	Phe	Gln	Ala	Gln	Ala	Pro	Lys	Ile	Trp	Ile	
			500				505						510			
Tyr	Pro	Thr	Lys	Thr	Gly	Ser	Thr	Tyr	Thr	Glu	Asp	Ser	Asn	Pro	Thr	
		515					520					525				
Ile	Thr	Ile	Ser	Gly	Thr	Leu	Thr	Leu	Arg	Asn	Ser	Asn	Asn	Glu	Asp	
	530					535					540					
Pro	Tyr	Asp	Ser	Leu	Asp	Leu	Ser	His	Ser	Leu	Glu	Lys	Val	Pro	Leu	
545					550					555					560	
Leu	Tyr	Ile	Val	Asp	Val	Ala	Ala	Gln	Lys	Ile	Asn	Ser	Ser	Gln	Leu	
			565						570					575		
Asp	Leu	Ser	Thr	Leu	Asn	Ser	Gly	Glu	His	Tyr	Gly	Tyr	Gln	Gly	Ile	
			580					585					590			
Trp	Ser	Thr	Tyr	Trp	Val	Glu	Thr	Thr	Thr	Ile	Thr	Asn	Pro	Thr	Ser	
		595				600						605				
Leu	Leu	Gly	Ala	Asn	Thr	Lys	His	Lys	Leu	Leu	Tyr	Ala	Asn	Trp	Ser	
	610					615					620					
Pro	Leu	Gly	Tyr	Arg	Pro	His	Pro	Glu	Arg	Arg	Gly	Glu	Phe	Ile	Thr	
625					630					635					640	
Asn	Ala	Leu	Trp	Gln	Ser	Ala	Tyr	Thr	Ala	Leu	Ala	Gly	Leu	His	Ser	
			645						650					655		
Leu	Ser	Ser	Trp	Asp	Glu	Glu	Lys	Gly	His	Ala	Ala	Ser	Leu	Gln	Gly	
		660						665					670			
Ile	Gly	Leu	Leu	Val	His	Gln	Lys	Asp	Lys	Asn	Gly	Phe	Lys	Gly	Phe	
		675					680					685				
Arg	Ser	His	Met	Thr	Gly	Tyr	Ser	Ala	Thr	Thr	Glu	Ala	Thr	Ser	Ser	
	690					695					700					
Gln	Ser	Pro	Asn	Phe	Ser	Leu	Gly	Phe	Ala	Gln	Phe	Phe	Ser	Lys	Ala	
705					710					715					720	
Lys	Glu	His	Glu	Ser	Gln	Asn	Ser	Thr	Ser	Ser	His	His	Tyr	Phe	Ser	
			725						730					735		
Gly	Met	Cys	Ile	Glu	Asn	Thr	Leu	Phe	Lys	Glu	Trp	Ile	Arg	Leu	Ser	
		740						745					750			
Val	Ser	Leu	Ala	Tyr	Met	Phe	Thr	Ser	Glu	His	Thr	His	Thr	Met	Tyr	
		755					760					765				
Gln	Gly	Leu	Leu	Glu	Gly	Asn	Ser	Gln	Gly	Ser	Phe	His	Asn	His	Thr	
	770					775					780					
Leu	Ala	Gly	Ala	Leu	Ser	Cys	Val	Phe	Leu	Pro	Gln	Pro	His	Gly	Glu	
785					790					795					800	
Ser	Leu	Gln	Ile	Tyr	Pro	Phe	Ile	Thr	Ala	Leu	Ala	Ile	Arg	Gly	Asn	
			805						810					815		
Leu	Ala	Ala	Phe	Gln	Glu	Ser	Gly	Asp	His	Ala	Arg	Glu	Phe	Ser	Leu	
			820					825					830			
His	Arg	Pro	Leu	Thr	Asp	Val	Ser	Leu	Pro	Val	Gly	Ile	Arg	Ala	Ser	
		835					840					845				
Trp	Lys	Asn	His	His	Arg	Val	Pro	Leu	Val	Trp	Leu	Thr	Glu	Ile	Ser	
	850					855					860					
Tyr	Arg	Ser	Thr	Leu	Tyr	Arg	Gln	Asp	Pro	Glu	Leu	His	Ser	Lys	Leu	
865					870					875					880	
Leu	Ile	Ser	Gln	Gly	Thr	Trp	Thr	Thr	Gln	Ala	Thr	Pro	Val	Thr	Tyr	
			885						890					895		
Asn	Ala	Leu	Gly	Ile	Lys	Val	Lys	Asn	Thr	Met	Gln	Val	Phe	Pro	Lys	
		900						905					910			
Val	Thr	Leu	Ser	Leu	Asp	Tyr	Ser	Ala	Asp	Ile	Ser	Ser	Ser	Thr	Leu	
		915					920					925				
Ser	His	Tyr	Leu	Asn	Val	Ala	Ser	Arg	Met	Arg	Phe					
	930					935					940					

<210> 469  
 <211> 969  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 469  
 Asn Glu Ile Leu Thr Ile Ser Asp Gln Asn Arg Lys Ile Lys Glu Pro  
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 Leu Val Ser Lys Thr Pro Pro Lys Phe Leu Phe Tyr Leu Gly Asn Phe  
 20 25 30  
 Thr Ala Cys Met Phe Gly Met Thr Pro Ala Val Tyr Ser Leu Gln Thr  
 35 40 45  
 Asp Ser Leu Glu Lys Phe Ala Leu Glu Arg Asp Glu Glu Phe Arg Thr  
 50 55 60  
 Ser Phe Pro Leu Leu Asp Ser Leu Ser Thr Leu Thr Gly Phe Ser Pro  
 65 70 75 80  
 Ile Thr Thr Phe Val Gly Asn Arg His Asn Ser Ser Gln Asp Ile Val  
 85 90 95  
 Leu Ser Asn Tyr Lys Ser Ile Asp Asn Ile Leu Leu Leu Trp Thr Ser  
 100 105 110  
 Ala Gly Gly Ala Val Ser Cys Asn Asn Phe Leu Leu Ser Asn Val Glu  
 115 120 125  
 Asp His Ala Phe Phe Ser Lys Asn Leu Ala Ile Gly Thr Gly Gly Ala  
 130 135 140  
 Ile Ala Cys Gln Gly Ala Cys Thr Ile Thr Lys Asn Arg Gly Pro Leu  
 145 150 155 160  
 Ile Phe Phe Ser Asn Arg Gly Leu Asn Asn Ala Ser Thr Gly Gly Glu  
 165 170 175  
 Thr Arg Gly Gly Ala Ile Ala Cys Asn Gly Asp Phe Thr Ile Ser Gln  
 180 185 190  
 Asn Gln Gly Thr Phe Tyr Phe Val Asn Asn Ser Val Asn Asn Trp Gly  
 195 200 205  
 Gly Ala Leu Ser Thr Asn Gly His Cys Arg Ile Gln Ser Asn Arg Ala  
 210 215 220  
 Pro Leu Leu Phe Phe Asn Asn Thr Ala Pro Ser Gly Gly Gly Ala Leu  
 225 230 235 240  
 Arg Ser Glu Asn Thr Thr Ile Ser Asp Asn Thr Arg Pro Ile Tyr Phe  
 245 250 255  
 Lys Asn Asn Cys Gly Asn Asn Gly Gly Ala Ile Gln Thr Ser Val Thr  
 260 265 270  
 Val Ala Ile Lys Asn Asn Ser Gly Ser Val Ile Phe Asn Asn Asn Thr  
 275 280 285  
 Ala Leu Ser Gly Ser Ile Asn Ser Gly Asn Gly Ser Gly Gly Ala Ile  
 290 295 300  
 Tyr Thr Thr Asn Leu Ser Ile Asp Asp Asn Pro Gly Thr Ile Leu Phe  
 305 310 315 320  
 Asn Asn Asn Tyr Cys Ile Arg Asp Gly Gly Ala Ile Cys Thr Gln Phe  
 325 330 335  
 Leu Thr Ile Lys Asn Ser Gly His Val Tyr Phe Thr Asn Asn Gln Gly  
 340 345 350  
 Asn Trp Gly Gly Ala Leu Met Leu Leu Gln Asp Ser Thr Cys Leu Leu  
 355 360 365  
 Phe Ala Glu Gln Gly Asn Ile Ala Phe Gln Asn Asn Glu Val Phe Leu  
 370 375 380  
 Thr Thr Phe Gly Arg Tyr Asn Ala Ile His Cys Thr Pro Asn Ser Asn  
 385 390 395 400  
 Leu Gln Leu Gly Ala Asn Lys Gly Tyr Thr Thr Ala Phe Phe Asp Pro  
 405 410 415  
 Ile Glu His Gln His Pro Thr Thr Asn Pro Leu Ile Phe Asn Pro Asn  
 420 425 430

Ala	Asn	His	Gln	Gly	Thr	Ile	Leu	Phe	Ser	Ser	Ala	Tyr	Ile	Pro	Glu
		435					440					445			
Ala	Ser	Asp	Tyr	Glu	Asn	Asn	Phe	Ile	Ser	Ser	Ser	Lys	Asn	Thr	Ser
	450					455					460				
Glu	Leu	Arg	Asn	Gly	Val	Leu	Ser	Ile	Glu	Asp	Arg	Ala	Gly	Trp	Gln
465					470					475					480
Phe	Tyr	Lys	Phe	Thr	Gln	Lys	Gly	Gly	Ile	Leu	Lys	Leu	Gly	His	Ala
				485					490					495	
Ala	Ser	Ile	Ala	Thr	Thr	Ala	Asn	Ser	Glu	Thr	Pro	Ser	Thr	Ser	Val
			500					505						510	
Gly	Ser	Gln	Val	Ile	Ile	Asn	Asn	Leu	Ala	Ile	Asn	Leu	Pro	Ser	Ile
		515					520					525			
Leu	Ala	Lys	Gly	Lys	Ala	Pro	Thr	Leu	Trp	Ile	Arg	Pro	Leu	Gln	Ser
	530					535					540				
Ser	Ala	Pro	Phe	Thr	Glu	Asp	Asn	Asn	Pro	Thr	Ile	Thr	Leu	Ser	Gly
545					550					555					560
Pro	Leu	Thr	Leu	Leu	Asn	Glu	Glu	Asn	Arg	Asp	Pro	Tyr	Asp	Ser	Ile
				565					570					575	
Asp	Leu	Ser	Glu	Pro	Leu	Gln	Asn	Ile	His	Leu	Leu	Ser	Leu	Ser	Asp
			580					585						590	
Val	Thr	Ala	Arg	His	Ile	Asn	Thr	Asp	Asn	Phe	His	Pro	Glu	Ser	Leu
		595					600					605			
Asn	Ala	Thr	Glu	His	Tyr	Gly	Tyr	Gln	Gly	Ile	Trp	Ser	Pro	Tyr	Trp
	610					615					620				
Val	Glu	Thr	Ile	Thr	Thr	Thr	Asn	Asn	Ala	Ser	Ile	Glu	Thr	Ala	Asn
625					630					635					640
Thr	Leu	Tyr	Arg	Ala	Leu	Tyr	Ala	Asn	Trp	Thr	Pro	Leu	Gly	Tyr	Lys
				645					650					655	
Val	Asn	Pro	Glu	Tyr	Gln	Gly	Asp	Leu	Ala	Thr	Thr	Pro	Leu	Trp	Gln
			660					665						670	
Ser	Phe	His	Thr	Met	Phe	Ser	Leu	Leu	Arg	Ser	Tyr	Asn	Arg	Thr	Gly
		675					680					685			
Asp	Ser	Asp	Ile	Glu	Arg	Pro	Phe	Leu	Glu	Ile	Gln	Gly	Ile	Ala	Asp
	690					695					700				
Gly	Leu	Phe	Val	His	Gln	Asn	Ser	Ile	Pro	Gly	Ala	Pro	Gly	Phe	Arg
705					710					715					720
Ile	Gln	Ser	Thr	Gly	Tyr	Ser	Leu	Gln	Ala	Ser	Ser	Glu	Thr	Ser	Leu
				725					730					735	
His	Gln	Lys	Ile	Ser	Leu	Gly	Phe	Ala	Gln	Phe	Phe	Thr	Arg	Thr	Lys
			740					745					750		
Glu	Ile	Gly	Ser	Ser	Asn	Asn	Val	Ser	Ala	His	Asn	Thr	Val	Ser	Ser
		755					760					765			
Leu	Tyr	Val	Glu	Leu	Pro	Trp	Phe	Gln	Glu	Ala	Phe	Ala	Thr	Ser	Thr
	770					775					780				
Val	Leu	Ala	Tyr	Gly	Tyr	Gly	Asp	His	His	Leu	His	Ser	Leu	His	Pro
785					790					795					800
Ser	His	Gln	Glu	Gln	Ala	Glu	Gly	Thr	Cys	Tyr	Ser	His	Thr	Leu	Ala
				805					810					815	
Ala	Ala	Ile	Gly	Cys	Ser	Phe	Pro	Trp	Gln	Gln	Lys	Ser	Tyr	Leu	His
			820					825					830		
Leu	Ser	Pro	Phe	Val	Gln	Ala	Ile	Ala	Ile	Arg	Ser	His	Gln	Thr	Ala
		835					840					845			
Phe	Glu	Glu	Ile	Gly	Asp	Asn	Pro	Arg	Lys	Phe	Val	Ser	Gln	Lys	Pro
	850					855					860				
Phe	Tyr	Asn	Leu	Thr	Leu	Pro	Leu	Gly	Ile	Gln	Gly	Lys	Trp	Gln	Ser
865					870					875					880
Lys	Phe	His	Val	Pro	Thr	Glu	Trp	Thr	Leu	Glu	Leu	Ser	Tyr	Gln	Pro
				885					890					895	
Val	Leu	Tyr	Gln	Gln	Asn	Pro	Gln	Ile	Gly	Val	Thr	Leu	Leu	Ala	Ser
			900					905						910	

Gly Gly Ser Trp Asp Ile Leu Gly His Asn Tyr Val Arg Asn Ala Leu  
           915                          920                          925  
 Gly Tyr Lys Val His Asn Gln Thr Ala Leu Phe Arg Ser Leu Asp Leu  
           930                          935                          940  
 Phe Leu Asp Tyr Gln Gly Ser Val Ser Ser Ser Thr Ser Thr His His  
 945                          950                          955                          960  
 Leu Gln Ala Gly Ser Thr Leu Lys Phe  
                           965

<210> 470  
 <211> 275  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 470  
 Ile Tyr Lys Leu Leu Asp Asn Lys Leu Met Ile Phe Tyr Asp Lys Leu  
 1                          5                          10                          15  
 Tyr Phe His Ile Lys Val Trp Met Phe Met Arg Pro Ile Cys Leu Ser  
                           20                          25                          30  
 Ile Leu Ser Thr Ala Leu Cys Cys Ser Leu Ser Gly Asn Glu Val Pro  
                           35                          40                          45  
 Asn Leu Ala Ser Cys Gln Met Ser Arg Lys Asp Ile Ser Ala Phe His  
                           50                          55                          60  
 Thr Ser Pro Ser Phe Arg Leu Asn Val Thr Pro Glu Pro Leu Val Ser  
 65                          70                          75                          80  
 Ser Phe Arg Pro Ser Asn Leu Leu Asn Gly Phe Gly His Asp Ile Thr  
                           85                          90                          95  
 Gln Asp Ile Thr Ile Thr Gly Asn Ser Ile Asn Ser Val Ile Asp Tyr  
                           100                          105                          110  
 Asn Tyr His Tyr Glu Asp Gly Gly Ile Leu Ala Cys Lys Asn Leu Phe  
                           115                          120                          125  
 Ile Ser Glu Asn Lys Gly Asn Leu Ser Phe Glu Arg Asn Ser Ser His  
                           130                          135                          140  
 Ser Ser Gly Gly Ala Leu Tyr Ser Val Arg Glu Cys Trp Ile Ser Lys  
 145                          150                          155                          160  
 Asn Gln Asn Tyr Ser Phe Ile Ser Asn Ala Ala Ser Leu Ala Thr Thr  
                           165                          170                          175  
 Thr Thr Ser Gly Phe Gly Gly Ala Ile His Ala Leu Asp Ser Tyr Ile  
                           180                          185                          190  
 Thr Asn Asn Leu Gly Glu Gly Gln Phe Leu Asp Asn Val Ser Lys Asn  
                           195                          200                          205  
 Arg Gly Gly Ala Ile Tyr Val Gly Val Ser Leu Ser Ile Thr Asp Asn  
                           210                          215                          220  
 Leu Gly Pro Ile Val Ile Lys Lys Asn Gln Thr Leu Glu Asp Ser Ser  
 225                          230                          235                          240  
 Phe Gly Gly Gly Ile Phe Cys Arg Ala Val Asn Ile Glu Arg Asn Tyr  
                           245                          250                          255  
 Gln Asn Ile Gln Ile Asn Asp Asn Ala Ser Gly Gln Gly Val Val Tyr  
                           260                          265                          270  
 Phe Leu Pro  
                           275

<210> 471  
 <211> 354  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 471  
 Cys Phe Arg Thr Arg Gly Gly Ile Phe Ser Ala Leu Gly Val Ile Ile  
 1                          5                          10                          15

Ser Ser Asn Lys Glu Ile Ile Glu Ile Ser Asn His Ser Ala Ser Ser  
 20 25 30  
 Ile Asn Thr Ala Ser Gly Lys Leu Tyr Pro Gly Gly Gly Ile Met  
 35 40 45  
 Cys Thr Ser Leu Val Ile Glu Asn Asn Pro Lys Gly Leu Ile Phe Asn  
 50 55 60  
 Asn Lys Thr Ala Ala Leu Ser Gly Gly Ala Ile His Thr Arg Ser Phe  
 65 70 75 80  
 Ile Phe Gln Asn Asn Gly Pro Thr Ala Phe Ile Asn Asn Ser Ala Thr  
 85 90 95  
 Ser Gly Gly Ala Leu Ile Asn Leu Ser Gly Ile Gly Ser Thr Pro Gln  
 100 105 110  
 Asn Phe Phe Leu Ser Ala Asp Tyr Gly Asp Ile Leu Phe Asn Asn Asn  
 115 120 125  
 Thr Ile Thr Ser Ser Ser Pro Gln Pro Gly Tyr Arg Asn Ala Leu Tyr  
 130 135 140  
 Ala Ala Pro Gly Ile Asn Leu Lys Leu Gly Ala Arg Gln Gly Tyr Lys  
 145 150 155 160  
 Ile Leu Phe Tyr Asp Pro Ile Asp His Asp Gln Thr Thr Thr Asp Pro  
 165 170 175  
 Ile Val Phe Asn Tyr Glu Pro His His Leu Gly Thr Val Leu Phe Ser  
 180 185 190  
 Gly Ile Asn Val Asp Ser Asn Ala Thr Asn Pro Leu Asn Phe Leu Ser  
 195 200 205  
 Lys Phe Ser Asn Ser Ser Arg Leu Glu Arg Gly Val Leu Ala Ile Glu  
 210 215 220  
 Asp Arg Ala Ala Ile Ser Cys Lys Thr Leu Ser Gln Thr Gly Gly Ile  
 225 230 235 240  
 Leu Arg Leu Gly Asn Ala Ala Leu Ile Arg Thr Lys Gly Pro Gly Ser  
 245 250 255  
 Ser Ile Asn Phe Asn Ala Ile Ala Ile Asn Leu Pro Ser Ile Leu Gln  
 260 265 270  
 Ser Glu Ala Ser Ala Pro Lys Phe Trp Ile Tyr Pro Thr Leu Thr Gly  
 275 280 285  
 Ser Thr Tyr Ser Glu Asp Thr Ser Ser Thr Ile Thr Leu Ser Gly Pro  
 290 295 300  
 Leu Thr Phe Leu Asn Asp Glu Asn Glu Asn Pro Tyr Asp Ser Leu Asp  
 305 310 315 320  
 Leu Ser Glu Pro Arg Lys Asp Ile Pro Pro Pro Leu Pro Pro Arg Cys  
 325 330 335  
 Asp Cys Lys Lys Asn Arg Tyr Phe Glu Ser His Cys Arg Ser His Glu  
 340 345 350  
 Leu Arg

<210> 472  
 <211> 392  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 472  
 Ile Ser Leu Asn Leu Glu Arg Ile Ser Pro Leu Leu Tyr Leu Leu Asp  
 1 5 10 15  
 Val Thr Ala Lys Lys Ile Asp Thr Ser Asn Leu Ile Val Glu Ala Met  
 20 25 30  
 Asn Leu Asp Glu His Tyr Gly Tyr Gln Gly Ile Trp Ser Pro Tyr Trp  
 35 40 45  
 Met Glu Thr Thr Thr Thr Thr Ser Ser Thr Val Pro Glu Gln Thr Asn  
 50 55 60  
 Thr Asn His Arg Gln Leu Tyr Val Asp Trp Thr Pro Val Gly Tyr Arg  
 65 70 75 80

Pro	Asn	Pro	Glu	Arg	His	Gly	Glu	Phe	Ile	Ala	Asn	Thr	Leu	Trp	Gln
			85						90					95	
Ser	Ala	Tyr	Asn	Ala	Leu	Leu	Gly	Ile	Arg	Ile	Leu	Pro	Pro	Gln	Asn
			100					105					110		
Leu	Lys	Glu	His	Asp	Leu	Glu	Ala	Ser	Leu	Gln	Gly	Leu	Gly	Leu	Leu
		115					120					125			
Ile	Asn	Gln	His	Asn	Arg	Glu	Gly	Arg	Lys	Gly	Phe	Arg	Asn	His	Thr
	130					135					140				
Thr	Gly	Tyr	Ala	Ala	Thr	Thr	Ser	Ala	Lys	Thr	Ala	Ala	Arg	His	Ser
145					150					155					160
Phe	Ser	Leu	Gly	Phe	Ala	Gln	Met	Phe	Ser	Lys	Thr	Arg	Glu	Arg	Gln
				165				170						175	
Ser	Pro	Ser	Thr	Thr	Ser	Ser	His	Asn	Tyr	Phe	Ala	Gly	Leu	Arg	Phe
			180					185					190		
Asp	Ser	Leu	Leu	Phe	Arg	Asp	Phe	Ile	Ser	Thr	Gly	Leu	Ser	Leu	Gly
		195					200					205			
Tyr	Ser	Tyr	Gly	Asp	His	His	Met	Leu	Cys	His	Tyr	Thr	Glu	Ile	Leu
	210					215					220				
Lys	Gly	Ser	Ser	Lys	Ala	Phe	Phe	Asn	Asn	His	Thr	Leu	Val	Ala	Ser
225					230					235					240
Leu	Asp	Cys	Thr	Phe	Leu	Pro	Ala	Arg	Ile	Thr	Arg	Thr	Leu	Glu	Leu
				245					250					255	
Gln	Pro	Phe	Ile	Ser	Ala	Ile	Ala	Leu	Arg	Cys	Ser	Gln	Ala	Ser	Phe
			260					265					270		
Gln	Glu	Thr	Gly	Asp	His	Ile	Arg	Lys	Phe	His	Pro	Lys	His	Pro	Leu
		275					280					285			
Thr	Asp	Leu	Ser	Ser	Pro	Ile	Gly	Phe	Arg	Ser	Glu	Trp	Lys	Thr	Ser
	290					295					300				
His	His	Ile	Pro	Met	Leu	Trp	Thr	Thr	Glu	Ile	Ser	Tyr	Val	Pro	Thr
305					310					315					320
Leu	Tyr	Arg	Lys	Asn	Pro	Glu	Met	Phe	Thr	Thr	Leu	Leu	Ile	Ser	Asn
				325					330					335	
Gly	Thr	Trp	Thr	Thr	Gln	Ala	Thr	Pro	Val	Ser	Tyr	Asn	Ser	Val	Ala
			340					345					350		
Ala	Lys	Ile	Lys	Asn	Thr	Ser	Gln	Leu	Phe	Ser	Arg	Val	Thr	Leu	Ser
		355					360					365			
Leu	Asp	Tyr	Ser	Ala	Gln	Val	Ser	Ser	Ser	Thr	Val	Gly	Gln	Tyr	Leu
	370					375					380				
Lys	Ala	Glu	Ser	His	Cys	Thr	Phe								
385					390										

<210> 473

<211> 947

<212> PRT

<213> Chlamydia pneumoniae

<400> 473

Thr	Val	Gln	Asn	Asn	Arg	Ser	Leu	Ser	Lys	Ser	Ser	Phe	Phe	Val	Gly
1				5					10					15	
Ala	Leu	Ile	Leu	Gly	Lys	Thr	Thr	Ile	Leu	Leu	Asn	Ala	Thr	Pro	Leu
			20					25					30		
Ser	Asp	Tyr	Phe	Asp	Asn	Gln	Ala	Asn	Gln	Leu	Thr	Thr	Leu	Phe	Pro
		35					40					45			
Leu	Ile	Asp	Thr	Leu	Thr	Asn	Met	Thr	Pro	Tyr	Ser	His	Arg	Ala	Thr
	50					55					60				
Leu	Phe	Gly	Val	Arg	Asp	Asp	Thr	Asn	Gln	Asp	Ile	Val	Leu	Asp	His
65					70					75					80
Gln	Asn	Ser	Ile	Glu	Ser	Trp	Phe	Glu	Asn	Phe	Ser	Gln	Asp	Gly	Gly
				85					90					95	
Ala	Leu	Ser	Cys	Lys	Ser	Leu	Ala	Ile	Thr	Asn	Thr	Lys	Asn	Gln	Ile
			100					105						110	

Leu	Phe	Leu	Asn	Ser	Phe	Ala	Ile	Lys	Arg	Ala	Gly	Ala	Met	Tyr	Val	
		115					120					125				
Asn	Gly	Asn	Phe	Asp	Leu	Ser	Glu	Asn	His	Gly	Ser	Ile	Ile	Phe	Ser	
	130						135				140					
Gly	Asn	Leu	Ser	Phe	Pro	Asn	Ala	Ser	Asn	Phe	Ala	Asp	Thr	Cys	Thr	
145					150					155					160	
Gly	Gly	Ala	Val	Leu	Cys	Ser	Lys	Asn	Val	Thr	Ile	Ser	Lys	Asn	Gln	
			165						170					175		
Gly	Thr	Ala	Tyr	Phe	Ile	Asn	Asn	Lys	Ala	Lys	Ser	Ser	Gly	Gly	Ala	
		180						185					190			
Ile	Gln	Ala	Ala	Ile	Ile	Asn	Ile	Lys	Asp	Asn	Thr	Gly	Pro	Cys	Leu	
	195						200					205				
Phe	Phe	Asn	Asn	Ala	Ala	Gly	Gly	Thr	Ala	Gly	Gly	Ala	Leu	Phe	Ala	
	210					215				220						
Asn	Ala	Cys	Arg	Ile	Glu	Asn	Asn	Ser	Gln	Pro	Ile	Tyr	Phe	Leu	Asn	
225					230					235					240	
Asn	Gln	Ser	Gly	Leu	Gly	Gly	Ala	Ile	Arg	Val	His	Gln	Glu	Cys	Ile	
			245						250					255		
Leu	Thr	Lys	Asn	Thr	Gly	Ser	Val	Ile	Phe	Asn	Asn	Asn	Phe	Ala	Met	
		260						265					270			
Glu	Ala	Asp	Ile	Ser	Ala	Asn	His	Ser	Ser	Gly	Gly	Ala	Ile	Tyr	Cys	
	275						280					285				
Ile	Ser	Cys	Ser	Ile	Lys	Asp	Asn	Pro	Gly	Ile	Ala	Ala	Phe	Asp	Asn	
	290					295				300						
Asn	Thr	Ala	Ala	Arg	Asp	Gly	Gly	Ala	Ile	Cys	Thr	Gln	Ser	Leu	Thr	
305					310					315					320	
Ile	Gln	Asp	Ser	Gly	Pro	Val	Tyr	Phe	Thr	Asn	Asn	Gln	Gly	Thr	Trp	
			325						330					335		
Gly	Gly	Ala	Ile	Met	Leu	Arg	Gln	Asp	Gly	Ala	Cys	Thr	Leu	Phe	Ala	
		340						345					350			
Asp	Gln	Gly	Asp	Ile	Ile	Phe	Tyr	Asn	Asn	Arg	His	Phe	Lys	Asp	Thr	
	355						360					365				
Phe	Ser	Asn	His	Val	Ser	Val	Asn	Cys	Thr	Arg	Asn	Val	Ser	Leu	Thr	
	370					375				380						
Val	Gly	Ala	Ser	Gln	Gly	His	Ser	Ala	Thr	Phe	Tyr	Asp	Pro	Ile	Leu	
385					390					395					400	
Gln	Arg	Tyr	Thr	Ile	Gln	Asn	Ser	Ile	Gln	Lys	Phe	Asn	Pro	Asn	Pro	
			405						410					415		
Glu	His	Leu	Gly	Thr	Ile	Leu	Phe	Ser	Ser	Thr	Tyr	Ile	Pro	Asp	Thr	
		420						425					430			
Ser	Thr	Ser	Arg	Asp	Asp	Phe	Ile	Ser	His	Phe	Arg	Asn	His	Ile	Gly	
	435					440						445				
Leu	Tyr	Asn	Gly	Thr	Leu	Ala	Leu	Glu	Asp	Arg	Ala	Glu	Trp	Lys	Val	
	450					455				460						
Tyr	Lys	Phe	Asp	Gln	Phe	Gly	Gly	Thr	Leu	Arg	Leu	Gly	Ser	Arg	Ala	
465					470					475					480	
Val	Phe	Ser	Thr	Thr	Asp	Glu	Glu	Gln	Ser	Ser	Ser	Ser	Val	Gly	Ser	
			485					490						495		
Val	Ile	Asn	Ile	Asn	Asn	Leu	Ala	Ile	Asn	Leu	Pro	Ser	Ile	Leu	Gly	
		500						505					510			
Asn	Arg	Val	Ala	Pro	Lys	Leu	Trp	Ile	Arg	Pro	Thr	Gly	Ser	Ser	Ala	
	515						520					525				
Pro	Tyr	Ser	Glu	Asp	Asn	Asn	Pro	Ile	Ile	Asn	Leu	Ser	Gly	Pro	Leu	
	530					535					540					
Ser	Leu	Leu	Asp	Asp	Glu	Asn	Leu	Asp	Pro	Tyr	Asp	Thr	Ala	Asp	Leu	
545					550					555					560	
Ala	Gln	Pro	Ile	Ala	Glu	Val	Pro	Leu	Leu	Tyr	Leu	Leu	Asp	Val	Thr	
			565					570						575		
Ala	Lys	His	Ile	Asn	Thr	Asp	Asn	Phe	Tyr	Pro	Glu	Gly	Leu	Asn	Thr	
			580					585					590			



Thr Gln His Tyr Gly Tyr Gln Gly Val Trp Ser Pro Tyr Trp Ile Glu  
 595 600 605  
 Thr Ile Thr Thr Ser Asp Thr Ser Ser Glu Asp Thr Val Asn Thr Leu  
 610 615 620  
 His Arg Gln Leu Tyr Gly Asp Trp Thr Pro Thr Gly Tyr Lys Val Asn  
 625 630 635 640  
 Pro Glu Asn Lys Gly Asp Ile Ala Leu Ser Ala Phe Trp Gln Ser Phe  
 645 650 655  
 His Asn Leu Phe Ala Thr Leu Arg Tyr Gln Thr Gln Gln Gly Gln Ile  
 660 665 670  
 Ala Pro Thr Ala Ser Gly Glu Ala Thr Arg Leu Phe Val His Gln Asn  
 675 680 685  
 Ser Asn Asn Asp Ala Lys Gly Phe His Met Glu Ala Thr Gly Tyr Ser  
 690 695 700  
 Leu Gly Thr Thr Ser Asn Thr Ala Ser Asn His Ser Phe Gly Val Asn  
 705 710 715 720  
 Phe Ser Gln Leu Phe Ser Asn Leu Tyr Glu Ser His Ser Asp Asn Ser  
 725 730 735  
 Val Ala Ser His Thr Thr Thr Val Ala Leu Gln Ile Asn Asn Pro Trp  
 740 745 750  
 Leu Gln Glu Arg Phe Ser Thr Ser Ala Ser Leu Ala Tyr Ser Tyr Ser  
 755 760 765  
 Asn His His Ile Lys Ala Ser Gly Tyr Ser Gly Lys Ile Gln Thr Glu  
 770 775 780  
 Gly Lys Cys Tyr Ser Thr Thr Leu Gly Ala Ala Leu Ser Cys Ser Leu  
 785 790 795 800  
 Ser Leu Gln Trp Arg Ser Arg Pro Leu His Phe Thr Pro Phe Ile Gln  
 805 810 815  
 Ala Ile Ala Val Arg Ser Asn Gln Thr Ala Phe Gln Glu Ser Gly Asp  
 820 825 830  
 Lys Ala Arg Lys Phe Ser Val His Lys Pro Leu Tyr Asn Leu Thr Val  
 835 840 845  
 Pro Leu Gly Ile Gln Ser Ala Trp Glu Ser Lys Phe Arg Leu Pro Thr  
 850 855 860  
 Tyr Trp Asn Ile Glu Leu Ala Tyr Gln Pro Val Leu Tyr Gln Gln Asn  
 865 870 875 880  
 Pro Glu Ile Asn Val Ser Leu Glu Ser Ser Gly Ser Ser Trp Leu Leu  
 885 890 895  
 Ser Gly Thr Thr Leu Ala Arg Asn Ala Ile Ala Phe Lys Gly Arg Asn  
 900 905 910  
 Gln Ile Phe Ile Phe Pro Lys Leu Ser Val Phe Leu Asp Tyr Gln Gly  
 915 920 925  
 Ser Val Ser Ser Ser Thr Thr His Tyr Leu His Ala Gly Thr Thr  
 930 935 940  
 Phe Lys Phe  
 945

<210> 474

<211> 778

<212> PRT

<213> Chlamydia pneumoniae

<400> 474

Glu Val Phe Met Ala Ser Gly Ile Gly Gly Ser Ser Gly Leu Gly Lys  
 1 5 10 15  
 Ile Pro Pro Lys Asp Asn Gly Asp Arg Ser Arg Ser Pro Ser Pro Lys  
 20 25 30  
 Gly Glu Leu Gly Ser His Glu Ile Ser Leu Pro Pro Gln Glu His Gly  
 35 40 45  
 Glu Glu Gly Ala Ser Gly Ser Ser His Ile His Ser Ser Ser Phe  
 50 55 60

Leu	Pro	Glu	Asp	Gln	Glu	Ser	Gln	Ser	Ser	Ser	Ser	Ala	Ala	Ser	Ser	65	70	75	80
Pro	Gly	Phe	Phe	Ser	Arg	Val	Arg	Ser	Gly	Val	Asp	Arg	Ala	Leu	Lys				
Ser	Phe	Gly	Asn	Phe	Phe	Ser	Ala	Glu	Ser	Thr	Ser	Gln	Ala	Arg	Glu	85	90		95
Thr	Arg	Gln	Ala	Phe	Val	Arg	Leu	Ser	Lys	Thr	Ile	Thr	Ala	Asp	Glu	100	105		110
Arg	Arg	Asp	Val	Asp	Ser	Ser	Ser	Ala	Ala	Ala	Thr	Glu	Ala	Arg	Val	115	120		125
Ala	Glu	Asp	Ala	Ser	Val	Ser	Gly	Glu	Asn	Pro	Ser	Gln	Gly	Val	Pro	130	135		140
Glu	Thr	Ser	Ser	Gly	Pro	Glu	Pro	Gln	Arg	Leu	Phe	Ser	Leu	Pro	Ser	145	150	155	160
Val	Lys	Lys	Gln	Ser	Gly	Leu	Gly	Arg	Leu	Val	Gln	Thr	Val	Arg	Asp	165	170		175
Arg	Ile	Val	Leu	Pro	Ser	Gly	Ala	Pro	Pro	Thr	Asp	Ser	Glu	Pro	Leu	180	185		190
Ser	Leu	Tyr	Glu	Leu	Asn	Leu	Arg	Leu	Ser	Ser	Leu	Arg	Gln	Glu	Leu	195	200		205
Ser	Asp	Ile	Gln	Ser	Asn	Asp	Gln	Leu	Thr	Pro	Glu	Glu	Lys	Ala	Glu	210	215		220
Ala	Thr	Val	Thr	Ile	Gln	Gln	Leu	Ile	Gln	Ile	Thr	Glu	Phe	Gln	Cys	225	230	235	240
Gly	Tyr	Met	Glu	Ala	Thr	Gln	Ser	Ser	Val	Ser	Leu	Ala	Glu	Ala	Arg	245	250		255
Phe	Lys	Gly	Val	Glu	Thr	Ser	Asp	Glu	Ile	Asn	Ser	Leu	Cys	Ser	Glu	260	265		270
Leu	Thr	Asp	Pro	Glu	Leu	Gln	Glu	Leu	Met	Ser	Asp	Gly	Asp	Ser	Leu	275	280		285
Gln	Asn	Leu	Leu	Asp	Glu	Thr	Ala	Asp	Asp	Leu	Glu	Ala	Ala	Leu	Ser	290	295	300	
His	Thr	Arg	Leu	Ser	Phe	Ser	Leu	Asp	Asp	Asn	Pro	Thr	Pro	Ile	Asp	305	310	315	320
Asn	Asn	Pro	Thr	Leu	Ile	Ser	Gln	Glu	Pro	Ile	Tyr	Glu	Glu	Ile		325	330		335
Gly	Gly	Ala	Ala	Asp	Pro	Gln	Arg	Thr	Arg	Glu	Asn	Trp	Ser	Thr	Arg	340	345		350
Leu	Trp	Asn	Gln	Ile	Arg	Glu	Ala	Leu	Val	Ser	Leu	Leu	Gly	Met	Ile	355	360		365
Leu	Ser	Ile	Leu	Gly	Ser	Ile	Leu	His	Arg	Leu	Arg	Ile	Ala	Arg	His	370	375	380	
Ala	Ala	Ala	Glu	Ala	Val	Gly	Arg	Cys	Cys	Thr	Cys	Arg	Gly	Glu	Glu	385	390	395	400
Cys	Thr	Ser	Ser	Glu	Glu	Asp	Ser	Met	Ser	Val	Gly	Ser	Pro	Ser	Glu	405	410		415
Ile	Asp	Glu	Thr	Glu	Arg	Thr	Gly	Ser	Pro	His	Asp	Val	Pro	Arg	Arg	420	425		430
Asn	Gly	Ser	Pro	Arg	Glu	Asp	Ser	Pro	Leu	Met	Asn	Ala	Leu	Val	Gly	435	440		445
Trp	Ala	His	Lys	His	Gly	Ala	Lys	Thr	Lys	Glu	Ser	Ser	Glu	Ser	Ser	450	455	460	
Thr	Pro	Glu	Ile	Ser	Ile	Ser	Ala	Pro	Ile	Val	Arg	Gly	Trp	Ser	Gln	465	470	475	480
Asp	Ser	Ser	Val	Ser	Phe	Ile	Val	Met	Glu	Asp	Asp	His	Ile	Phe	Tyr	485	490		495
Asp	Val	Pro	Arg	Arg	Lys	Asp	Gly	Ile	Tyr	Asp	Val	Pro	Ser	Ser	Pro	500	505		510
Arg	Trp	Ser	Pro	Ala	Arg	Glu	Leu	Glu	Glu	Asp	Val	Phe	Gly	Asp	Tyr	515	520		525
																530	535	540	

Glu	Val	Pro	Ile	Thr	Ser	Ala	Glu	Pro	Ser	Lys	Asp	Lys	Asn	Ile	Tyr
545					550					555					560
Met	Thr	Pro	Arg	Leu	Ala	Thr	Pro	Ala	Ile	Tyr	Asp	Leu	Pro	Ser	Arg
			565						570					575	
Pro	Gly	Ser	Ser	Gly	Ser	Ser	Arg	Ser	Pro	Ser	Ser	Asp	Arg	Val	Arg
			580					585					590		
Ser	Ser	Ser	Pro	Asn	Arg	Arg	Gly	Val	Pro	Leu	Pro	Pro	Val	Pro	Ser
		595					600					605			
Pro	Ala	Met	Ser	Glu	Glu	Gly	Ser	Ile	Tyr	Glu	Asp	Met	Ser	Gly	Ala
	610					615					620				
Ser	Gly	Ala	Gly	Glu	Ser	Asp	Tyr	Glu	Asp	Met	Ser	Arg	Ser	Pro	Ser
625					630					635					640
Pro	Arg	Gly	Asp	Leu	Asp	Glu	Pro	Ile	Tyr	Ala	Asn	Thr	Pro	Glu	Asp
				645					650					655	
Asn	Pro	Phe	Thr	Gln	Arg	Asn	Ile	Asp	Arg	Ile	Leu	Gln	Glu	Arg	Ser
			660					665					670		
Gly	Gly	Ala	Ser	Ala	Ser	Pro	Val	Glu	Pro	Ile	Tyr	Asp	Glu	Ile	Pro
		675					680					685			
Trp	Ile	His	Gly	Arg	Pro	Pro	Ala	Thr	Leu	Pro	Arg	Pro	Glu	Asn	Thr
	690					695					700				
Leu	Thr	Asn	Val	Ser	Leu	Arg	Val	Ser	Pro	Gly	Phe	Gly	Pro	Glu	Val
705					710					715					720
Arg	Ala	Ala	Leu	Leu	Ser	Glu	Ser	Val	Ser	Ala	Val	Met	Val	Glu	Ala
				725					730					735	
Glu	Ser	Ile	Val	Pro	Pro	Thr	Glu	Pro	Gly	Asp	Gly	Glu	Ser	Glu	Tyr
			740				745						750		
Leu	Glu	Pro	Leu	Gly	Gly	Leu	Val	Ala	Thr	Thr	Lys	Ile	Leu	Leu	Gln
		755				760						765			
Lys	Gly	Trp	Pro	Arg	Gly	Glu	Ser	Asn	Ala						
	770					775									

<210> 475

<211> 511

<212> PRT

<213> Chlamydia pneumoniae

<400> 475

Gly	Ser	Ile	Met	Ala	Val	Gly	Gly	Val	Gly	Gly	Ser	Arg	Ser	Pro	Ser
1				5					10					15	
Pro	Ile	Pro	Pro	Asn	Arg	Arg	Asn	Ser	Glu	Asp	Gly	Lys	Val	Ser	Pro
			20					25					30		
Lys	Asp	Asn	Leu	Gly	Glu	His	Thr	Val	Ser	Ser	Ser	Asp	Ser	Ser	Leu
		35					40					45			
Ala	Ser	Gln	Gly	Pro	Thr	Ile	Glu	Glu	Arg	Lys	Ala	Gln	Leu	Gly	Gly
		50				55					60				
Thr	Asp	Lys	Ile	Pro	Leu	Pro	Ser	Val	Lys	Glu	Pro	Gly	Asp	Ser	Gln
65					70					75					80
Thr	Ser	Gly	Arg	Ser	Gly	Val	Leu	Gln	Arg	Ile	Trp	Lys	Gly	Val	Lys
				85					90					95	
Gly	Val	Phe	Lys	Lys	Thr	Pro	Gln	Ala	Arg	Pro	Glu	Val	Ser	Ser	Pro
			100					105					110		
Arg	Leu	Pro	Ser	His	Val	Gln	His	Gly	Gln	Arg	Leu	Pro	Gly	Leu	Glu
			115				120						125		
Gly	Phe	Arg	Asp	Arg	Ile	Gln	Lys	Arg	Ser	Glu	Asn	Pro	Glu	Ala	Asp
	130					135					140				
Leu	Gly	Lys	Met	Lys	Arg	Ser	Tyr	Ser	Asp	Gly	Asp	Leu	Asp	Arg	Val
145					150					155					160
Gly	His	Asp	Ser	Asn	Glu	Asp	Ser	Thr	Glu	Asp	Ser	Arg	Ser	Glu	Gly
				165					170					175	
Gly	Glu	Pro	Ser	Ser	Lys	Ser	Ser	Ser	Phe	Leu	Ser	Gly	Val	Arg	Gly
				180				185						190	

Ala	Val	Ser	Lys	Val	His	Gly	Ala	Leu	Gly	Asp	Ile	Lys	Gly	Lys	Phe
	195						200					205			
Gln	Arg	Ser	Ala	Ser	Glu	Asp	Asp	Leu	Thr	Thr	Gln	Gly	Glu	Asp	Ser
	210					215					220				
Ala	Gly	Asp	Thr	Val	Lys	Glu	Arg	Arg	Ser	Glu	Glu	Ala	Glu	Ala	Ser
225					230					235					240
Ser	Lys	Ser	Ser	Ser	Phe	Leu	Ser	Gly	Val	Arg	Gly	Ala	Thr	Ser	Thr
				245					250					255	
Val	Gln	Gly	Ala	Leu	Gly	Asp	Ala	Lys	Glu	Lys	Val	Ser	Ala	Phe	Gly
			260					265					270		
Glu	Gln	Ala	Ala	Gly	Ala	Ile	Arg	Ser	Ala	Pro	Gly	Asn	Ile	Arg	Thr
	275						280					285			
Arg	Phe	Gln	Arg	Ser	Ser	Ser	Glu	Gly	Asp	Leu	Ser	Asn	Val	Asn	Lys
	290					295					300				
Ala	Ala	Lys	His	Leu	Arg	Lys	Ala	Leu	Glu	Asn	Leu	Glu	Lys	Val	Ala
305					310					315					320
Pro	Glu	Gln	Val	Ser	Pro	Glu	Val	Ala	Ser	Arg	Val	Gln	Ser	Leu	Leu
				325					330					335	
Ala	Arg	Met	Glu	Gln	Leu	Thr	His	Gln	Glu	Pro	Pro	Thr	Val	Glu	Asp
			340					345					350		
Leu	Ile	Thr	Phe	Val	Glu	Ser	Asn	Val	Gly	Ser	Asp	Ser	Val	Glu	Tyr
	355						360					365			
Ala	Ser	Ile	Val	Pro	Gln	Asp	Gly	Ser	Gln	Ala	Pro	Ala	Glu	Thr	Ala
	370					375					380				
Glu	Ala	Pro	Glu	Thr	Gly	Gly	Val	Glu	Gly	Ser	Ala	Ala	Gln	Gly	Ala
385					390					395					400
Trp	Lys	Ala	Leu	Arg	Asp	Phe	Val	Val	Ser	Ile	Phe	Gln	Ala	Val	Ala
				405					410					415	
Ser	Phe	Phe	Arg	Ala	Ile	Ala	Ser	Arg	Leu	Ser	Ser	Ala	Arg	Arg	Glu
			420					425					430		
Ser	Ala	Val	Asp	Asp	Leu	Ala	Ser	Glu	Ser	Asn	Thr	Gln	Trp	Phe	Val
	435						440					445			
Glu	Gln	Glu	Gly	Val	Ser	Asn	Pro	Ser	Ala	Ala	Pro	Ser	Leu	Ser	Phe
	450					455					460				
Ala	Glu	Glu	Ile	Ala	Arg	Arg	Ala	Ala	Glu	Met	Ser	Asn	Arg	Asn	Ala
465					470					475					480
Gln	Ser	Leu	Glu	Lys	Leu	Glu	Ser	Gly	Asn	Val	Thr	Asp	Pro	Val	Ile
				485					490					495	
Gln	Gln	Gly	Leu	Gly	Leu	Ala	Arg	Ser	Phe	Ala	Pro	Glu	Gly	Gln	
			500					505						510	

<210> 476

<211> 598

<212> PRT

<213> Chlamydia pneumoniae

<400> 476

Leu	Lys	Ile	Ile	Ile	Ser	Ile	Ser	Phe	Met	Ser	Thr	Ser	Pro	Ile	Ser
1				5					10					15	
Asn	Asp	Pro	Arg	Tyr	Leu	Ser	Leu	Ser	Asn	Ala	Thr	Glu	Lys	Thr	Ser
			20					25					30		
Leu	Leu	Ala	Asn	Ser	Arg	Ser	Leu	Ser	Pro	Val	Pro	Asn	Ser	Leu	Val
		35					40					45			
Pro	Ser	Asn	Pro	Glu	Asp	Thr	Gly	Leu	Arg	Lys	Ser	Ile	Phe	Thr	His
	50					55					60				
Ser	Val	Thr	Leu	Phe	Ala	Gly	Leu	Val	Val	Leu	Val	Ala	Val	Ser	
65				70					75					80	
Val	Val	Val	Val	Ala	Leu	Thr	Val	Leu	Ala	Pro	Gly	Val	Pro	Gln	Ala
				85				90						95	
Ile	Leu	Leu	Gly	Ile	Ala	Ile	Ser	Gly	Val	Gly	Ile	Gly	Gly	Phe	Ser
			100					105						110	

Ile	Met	Lys	Ser	Leu	Val	Tyr	Met	Val	Arg	Asp	Tyr	Met	Ser	Pro	Arg
		115					120					125			
Met	Gln	Glu	Ser	Ser	Arg	Ile	Lys	Ser	Ala	Leu	Ala	Val	Gly	Thr	Gly
	130					135					140				
Phe	Thr	Val	Met	Gly	Leu	Val	Met	Lys	Val	Gly	Ala	Asn	Phe	Val	Pro
145					150					155					160
Gly	Gly	Tyr	Gly	Gly	Leu	Val	Gly	Ser	Leu	Gly	Ser	Ser	Ala	Tyr	Ser
				165					170					175	
Arg	Gly	Ser	Gln	Thr	Thr	Leu	Ala	Ser	Phe	Ser	His	Tyr	Ile	Tyr	Thr
			180					185					190		
Lys	Phe	Phe	Arg	Ser	Glu	Lys	Val	Ala	Lys	Gly	Glu	Lys	Leu	Thr	Glu
	195						200					205			
Ala	Glu	Thr	Ile	Lys	Glu	Ala	Lys	Lys	Leu	His	Tyr	Ile	Thr	Leu	Ser
	210					215					220				
Ile	Ala	Thr	Ile	Gly	Val	Gly	Leu	Ala	Val	Leu	Gly	Ile	Leu	Leu	Ala
225					230					235					240
Ile	Ala	Gly	Thr	Val	Leu	Leu	Gly	Gly	Ala	Pro	Ala	Thr	Ile	Ala	Ile
				245					250					255	
Ile	Leu	Ala	Pro	Pro	Leu	Ile	Ser	Ile	Gly	Leu	Thr	Thr	Val	Leu	Gln
		260						265					270		
Thr	Ile	Leu	His	Ser	Ser	Ile	Gly	Lys	Trp	Arg	Ala	Phe	Leu	Leu	Thr
	275						280					285			
Gln	Glu	Lys	Lys	Asp	Leu	Phe	Val	Asp	Thr	Ser	Leu	Lys	Asp	Ile	Arg
	290				295						300				
Leu	Glu	Lys	Leu	Pro	Pro	Ser	Glu	Val	Glu	Glu	Ser	Glu	Thr	Ser	Gln
305					310					315					320
Ser	Val	Ile	Glu	Val	Pro	Asp	Ser	Glu	Gly	Ile	Ala	Glu	Thr	Arg	Ile
				325					330					335	
Ser	Ala	Glu	Glu	Ile	Asp	Thr	Arg	Leu	Ser	Leu	Thr	Thr	Arg	Gln	Lys
		340						345					350		
Val	Ile	Phe	Ala	Leu	Ala	Thr	Leu	Leu	Leu	Ala	Ser	Ile	Ala	Ala	
	355						360				365				
Phe	Ile	Val	Thr	Gly	Phe	Gly	Gly	Leu	Thr	Val	Met	Gln	Val	Leu	Leu
	370					375					380				
Val	Ala	Ser	Val	Gly	Ser	Ala	Val	Ala	Ser	Val	Thr	Leu	Pro	Met	Val
385					390					395					400
Ser	Ser	Gly	Phe	Ser	Tyr	Val	Ala	Tyr	Gln	Leu	Lys	Ala	Arg	Leu	Asn
				405					410					415	
Ile	Ser	Lys	Leu	Arg	Trp	Lys	Glu	Ala	Lys	Asn	Lys	Lys	Arg	Val	Arg
			420				425						430		
Gln	Phe	Leu	Ile	Glu	Ser	Gly	Val	Ile	Ala	Ser	Asp	Arg	Glu	Phe	Asn
	435						440					445			
Gln	Met	Trp	Lys	Thr	Val	Tyr	Lys	Lys	Gln	Ile	Gln	Lys	Thr	Asp	Ala
	450					455					460				
Ala	Ile	Arg	Glu	Glu	Val	Arg	Asn	Phe	Glu	Lys	Gly	Gly	Glu	Val	Asn
465					470					475					480
Ser	Ala	Leu	Val	Gly	Gly	Ile	Leu	Leu	Gly	Val	Gly	Thr	Gly	Ile	Met
				485					490					495	
Leu	Leu	Ala	Leu	Val	Pro	Ala	Phe	Ala	Pro	Ile	Val	Pro	Gly	Ile	Leu
		500						505					510		
Ala	Leu	Gly	Gly	Ser	Thr	Leu	Gly	Ile	Ala	Gly	Ser	Ile	Leu	Met	Arg
	515						520					525			
Lys	Phe	Val	Asn	Trp	Leu	Tyr	Asp	Glu	Leu	Val	Lys	Leu	Tyr	Glu	Arg
	530					535					540				
Arg	Arg	Asn	Arg	Arg	Glu	Leu	Leu	Tyr	Gly	Pro	Glu	Ser	Lys	Met	Arg
545					550					555					560
Ser	Ile	Ala	Thr	Asp	Leu	Val	Val	Glu	Ala	Leu	Ala	Ala	Ser	His	Asp
				565					570					575	
His	Leu	Phe	Asp	Leu	Asp	Gly	Pro	Val	Asp	Phe	Ile	Asp	Val	Asp	Val
			580					585					590		

Asp Ile Asp Gly Ala Ala  
595

<210> 477

<211> 722

<212> PRT

<213> Chlamydia pneumoniae

<400> 477

Pro	Ser	Met	Val	Asp	Lys	Leu	Ile	His	Pro	Trp	Asp	Leu	Asp	Leu	Leu
1				5					10					15	
Val	Ser	Gly	Arg	Gln	Lys	Asp	Pro	His	Lys	Leu	Leu	Gly	Ile	Leu	Ala
			20					25					30		
Ser	Glu	Asp	Ser	Ser	Asp	His	Ile	Val	Ile	Phe	Arg	Pro	Gly	Ala	His
		35					40					45			
Thr	Val	Ala	Ile	Glu	Leu	Leu	Gly	Glu	Leu	His	His	Ala	Val	Ala	Tyr
		50				55					60				
Arg	Ser	Gly	Leu	Phe	Phe	Leu	Ser	Val	Pro	Lys	Gly	Ile	Gly	His	Gly
65					70					75					80
Asp	Tyr	Arg	Val	Tyr	His	Gln	Asn	Gly	Leu	Leu	Ala	His	Asp	Pro	Tyr
				85				90						95	
Ala	Phe	Pro	Pro	Leu	Trp	Gly	Glu	Ile	Asp	Ser	Phe	Leu	Phe	His	Arg
			100					105					110		
Gly	Thr	His	Tyr	Arg	Ile	Tyr	Glu	Arg	Met	Gly	Ala	Ile	Pro	Met	Glu
		115					120					125			
Val	Gln	Gly	Ile	Ser	Gly	Val	Leu	Phe	Val	Leu	Trp	Ala	Pro	His	Ala
	130					135					140				
Gln	Arg	Val	Ser	Val	Val	Gly	Asp	Phe	Asn	Phe	Trp	His	Gly	Leu	Val
145					150					155					160
Asn	Pro	Leu	Arg	Lys	Ile	Ser	Asp	Gln	Gly	Ile	Trp	Glu	Leu	Phe	Val
				165					170					175	
Pro	Gly	Leu	Gly	Gly	Ile	Arg	Tyr	Lys	Trp	Glu	Ile	Val	Thr	Gln	
			180				185					190			
Ser	Gly	Asn	Val	Ile	Val	Lys	Thr	Asp	Pro	Tyr	Gly	Lys	Ser	Phe	Asp
		195					200					205			
Pro	Pro	Pro	Gln	Gly	Thr	Ala	Arg	Val	Ala	Asp	Ser	Glu	Ser	Tyr	Ser
		210				215					220				
Trp	Ser	Asp	His	Arg	Trp	Met	Glu	Arg	Arg	Ser	Lys	Gln	Ser	Glu	Gly
225					230					235					240
Pro	Val	Thr	Ile	Tyr	Glu	Val	His	Leu	Gly	Ser	Trp	Gln	Trp	Gln	Glu
				245					250					255	
Gly	Arg	Pro	Leu	Ser	Tyr	Ser	Glu	Met	Ala	His	Arg	Leu	Ala	Ser	Tyr
			260					265					270		
Cys	Lys	Glu	Met	His	Tyr	Thr	His	Val	Glu	Leu	Leu	Pro	Ile	Thr	Glu
		275					280					285			
His	Pro	Leu	Asn	Glu	Ser	Trp	Gly	Tyr	Gln	Val	Thr	Gly	Tyr	Tyr	Ala
		290				295					300				
Pro	Thr	Ser	Arg	Tyr	Gly	Thr	Leu	Gln	Glu	Phe	Gln	Tyr	Phe	Val	Asp
305					310					315					320
Tyr	Leu	His	Lys	Glu	Asn	Ile	Gly	Ile	Ile	Leu	Asp	Trp	Val	Pro	Gly
			325						330					335	
His	Phe	Pro	Val	Asp	Ala	Phe	Ala	Leu	Ala	Ser	Phe	Asp	Gly	Glu	Pro
			340				345						350		
Leu	Tyr	Glu	Tyr	Thr	Gly	His	Ser	Gln	Ala	Leu	His	Pro	His	Trp	Asn
		355					360					365			
Thr	Phe	Thr	Phe	Asp	Tyr	Ser	Arg	His	Glu	Val	Thr	Asn	Phe	Leu	Leu
		370				375					380				
Gly	Ser	Ala	Leu	Phe	Trp	Leu	Asp	Lys	Met	His	Ile	Asp	Gly	Leu	Arg
385					390					395					400
Val	Asp	Ala	Val	Ala	Ser	Met	Leu	Tyr	Arg	Asp	Tyr	Gly	Arg	Glu	Asp
				405					410					415	

Gly Glu Trp Thr Pro Asn Ile Tyr Gly Gly Lys Glu Asn Leu Glu Ser  
 420 425 430  
 Ile Glu Phe Leu Lys His Leu Asn Ser Val Ile His Lys Glu Phe Ser  
 435 440 445  
 Gly Val Leu Thr Phe Ala Glu Ser Thr Ala Phe Pro Gly Val Thr  
 450 455 460  
 Lys Asp Val Asp Gln Gly Gly Leu Gly Phe Asp Tyr Lys Trp Asn Leu  
 465 470 475 480  
 Gly Trp Met His Asp Thr Phe His Tyr Phe Met Lys Asp Pro Met Tyr  
 485 490 495  
 Arg Lys Tyr His Gln Lys Asp Leu Thr Phe Ser Leu Trp Tyr Ala Phe  
 500 505 510  
 Gln Glu Ser Phe Ile Leu Pro Leu Ser His Asp Glu Val Val His Gly  
 515 520 525  
 Lys Gly Ser Leu Val Asn Lys Leu Pro Gly Asp Thr Trp Thr Arg Phe  
 530 535 540  
 Ala Gln Met Arg Val Leu Leu Ser Tyr Gln Ile Cys Leu Pro Gly Lys  
 545 550 555 560  
 Lys Leu Leu Phe Met Gly Gly Glu Phe Gly Gln Tyr Gly Glu Trp Ser  
 565 570 575  
 Pro Asp Arg Pro Leu Asp Trp Glu Leu Asn His His Tyr His Lys  
 580 585 590  
 Thr Leu Arg Asn Cys Val Ser Ala Leu Asn Ala Leu Tyr Ile His Gln  
 595 600 605  
 Pro Tyr Leu Trp Met Gln Glu Ser Ser Gln Glu Cys Phe His Trp Val  
 610 615 620  
 Asp Phe His Asp Ile Glu Asn Asn Val Ile Ala Tyr Tyr Arg Phe Ala  
 625 630 635 640  
 Gly Ser Asn Arg Ser Ser Ala Leu Leu Cys Val His His Phe Ser Ala  
 645 650 655  
 Ser Thr Phe Pro Ser Tyr Val Leu Arg Cys Glu Gly Val Lys His Cys  
 660 665 670  
 Glu Leu Leu Leu Asn Thr Asp Asp Glu Ser Phe Gly Gly Ser Gly Lys  
 675 680 685  
 Gly Asn Arg Ala Pro Val Val Cys Gln Asp Gln Gly Val Ala Trp Gly  
 690 695 700  
 Leu Asp Ile Glu Leu Pro Pro Leu Ala Thr Val Ile Tyr Leu Val Thr  
 705 710 715 720  
 Phe Phe

<210> 478

<211> 340

<212> PRT

<213> Chlamydia pneumoniae

<400> 478

Gly Arg Gly Arg Arg Ala Asp Trp Gly Asp Cys Met Ile Asp Ile Met  
 1 5 10 15  
 Gln His Phe Lys Pro Tyr Thr Met Val Pro Gly Gln Lys Leu Pro Ile  
 20 25 30  
 Pro Gly Ser Leu Leu Tyr Ala Gln Val Phe Pro Thr Leu Trp Arg Leu  
 35 40 45  
 Phe Ser Ser Lys His Glu Ile Leu Asn Glu Gln Thr Leu Gln Val Gln  
 50 55 60  
 Gly Pro Leu Lys Arg Phe Ala Val Phe Gln Asp Leu His Arg Gly Gly  
 65 70 75 80  
 Leu Ala Val Thr Ser Glu Arg Tyr Lys Tyr Tyr Leu Leu Pro Ser Gly  
 85 90 95  
 Glu Cys Thr Gln Ser Ile Lys Gly Lys Leu Pro Ser Ala Ala Gln Ala  
 100 105 110

Gly	Pro	Leu	Leu	Ser	Leu	Gly	Val	His	Lys	His	Ala	Asp	Trp	Gln	Lys
		115					120					125			
Val	Arg	Cys	Arg	Arg	Asp	Leu	Lys	Glu	Ile	Leu	Pro	Leu	Trp	Phe	Arg
		130					135				140				
Phe	Ala	Ala	Met	Ala	Pro	Lys	Gly	Ser	Tyr	Arg	Asp	Leu	Glu	Thr	Thr
145					150					155					160
Ala	Ile	Gly	Ser	Leu	Val	Lys	Thr	Ala	His	Gln	Arg	Val	Leu	His	Arg
				165					170					175	
Glu	Thr	Thr	Glu	Ile	Ala	Pro	Ala	Leu	Leu	Ser	Ile	Ala	Leu	Ala	Gly
			180					185					190		
Phe	Ser	Glu	Cys	Phe	Leu	Pro	Arg	Ser	Tyr	Asp	Glu	Glu	Phe	Gln	Gly
		195					200				205				
Ile	Leu	Pro	Gln	Asp	Gly	Asp	Pro	Glu	Gly	Gly	Val	Pro	Phe	Glu	Leu
	210					215					220				
Leu	Ser	Tyr	Ser	Phe	Gly	Met	Ile	Gln	Asp	Ile	Phe	Leu	Arg	His	Gln
225					230					235					240
Gly	Gln	Leu	Val	Glu	Ile	Leu	Pro	Ala	Leu	Pro	Pro	Glu	Phe	Pro	Cys
				245					250					255	
Gly	Arg	Leu	Ile	His	Val	Ala	Leu	Pro	Asn	Leu	Gly	Thr	Leu	Ser	Ile
			260					265					270		
Val	Trp	Thr	Lys	Lys	Thr	Ile	Arg	Gln	Val	Glu	Leu	His	Ala	Glu	Tyr
		275					280					285			
Ser	Gly	Glu	Val	Phe	Leu	Lys	Phe	Cys	Ser	Ser	Leu	Cys	Ser	Ala	Arg
	290					295				300					
Leu	Arg	Glu	Trp	Ser	Glu	Arg	Arg	Leu	Ser	Gly	Ser	Lys	Arg	Leu	Ser
305					310					315					320
Leu	Gly	Glu	Thr	Leu	Glu	Ile	Lys	Ala	Gly	Thr	Thr	Tyr	Leu	Trp	Asp
				325					330					335	
Cys	Phe	His	Lys												
			340												

<210> 479

<211> 423

<212> PRT

<213> Chlamydia pneumoniae

<400> 479

Arg	Tyr	Met	Thr	Val	Ala	Glu	Val	Lys	Gly	Thr	Phe	Lys	Leu	Val	Cys
1				5					10					15	
Leu	Gly	Cys	Arg	Val	Asn	Gln	Tyr	Glu	Val	Gln	Ala	Tyr	Arg	Asp	Gln
			20					25					30		
Leu	Thr	Ile	Leu	Gly	Tyr	Gln	Glu	Val	Leu	Asp	Ser	Glu	Ile	Pro	Ala
		35				40					45				
Asp	Leu	Cys	Ile	Ile	Asn	Thr	Cys	Ala	Val	Thr	Ala	Ser	Ala	Glu	Ser
	50				55					60					
Ser	Gly	Arg	His	Ala	Val	Arg	Gln	Leu	Cys	Arg	Gln	Asn	Pro	Thr	Ala
65				70						75					80
His	Ile	Val	Val	Thr	Gly	Cys	Leu	Gly	Glu	Ser	Asp	Lys	Glu	Phe	Phe
			85					90						95	
Ala	Ser	Leu	Asp	Arg	Gln	Cys	Thr	Leu	Val	Ser	Asn	Lys	Glu	Lys	Ser
			100					105					110		
Arg	Leu	Ile	Glu	Lys	Ile	Phe	Ser	Tyr	Asp	Thr	Thr	Phe	Pro	Glu	Phe
		115					120					125			
Lys	Ile	His	Ser	Phe	Glu	Gly	Lys	Ser	Arg	Ala	Phe	Ile	Lys	Val	Gln
	130					135					140				
Asp	Gly	Cys	Asn	Ser	Phe	Cys	Ser	Tyr	Cys	Ile	Ile	Pro	Tyr	Leu	Arg
145				150						155					160
Gly	Arg	Ser	Val	Ser	Arg	Pro	Ala	Glu	Lys	Ile	Leu	Ala	Glu	Ile	Ala
			165					170						175	
Gly	Val	Val	Asp	Gln	Gly	Tyr	Arg	Glu	Val	Val	Ile	Ala	Gly	Ile	Asn
			180					185					190		



Val Gly Asp Tyr Cys Asp Gly Glu Arg Ser Leu Ala Ser Leu Ile Glu  
 195 200 205  
 Gln Val Asp Arg Ile Pro Gly Ile Glu Arg Ile Arg Ile Ser Ser Ile  
 210 215 220  
 Asp Pro Asp Asp Ile Thr Glu Asp Leu His Arg Ala Ile Thr Ser Ser  
 225 230 235 240  
 Arg His Thr Cys Pro Ser Ser His Leu Val Leu Gln Ser Gly Ser Asn  
 245 250 255  
 Ser Ile Leu Lys Arg Met Asn Arg Lys Tyr Ser Arg Gly Asp Phe Leu  
 260 265 270  
 Asp Cys Val Glu Lys Phe Arg Ala Ser Asp Pro Arg Tyr Ala Phe Thr  
 275 280 285  
 Thr Asp Val Ile Val Gly Phe Pro Gly Glu Ser Asp Gln Asp Phe Glu  
 290 295 300  
 Asp Thr Leu Arg Ile Ile Glu Asp Val Gly Phe Ile Lys Val His Ser  
 305 310 315 320  
 Phe Pro Phe Ser Ala Arg Arg Arg Thr Lys Ala Tyr Thr Phe Asp Asn  
 325 330 335  
 Gln Ile Pro Asn Gln Val Ile Tyr Glu Arg Lys Lys Tyr Leu Ala Glu  
 340 345 350  
 Val Ala Lys Arg Val Gly Gln Lys Glu Met Met Lys Arg Leu Gly Glu  
 355 360 365  
 Thr Thr Glu Val Leu Val Glu Lys Val Thr Gly Gln Val Ala Thr Gly  
 370 375 380  
 His Ser Pro Tyr Phe Glu Lys Val Ser Phe Pro Val Val Gly Thr Val  
 385 390 395 400  
 Ala Ile Asn Thr Leu Val Ser Val Arg Leu Asp Arg Val Glu Glu Glu  
 405 410 415  
 Gly Leu Ile Gly Glu Ile Val  
 420

<210> 480

<211> 477

<212> PRT

<213> Chlamydia pneumoniae

<400> 480

Trp His Gly Gly Pro Leu Asp Thr Ile Asp Thr Pro Gly Glu Gln Gly  
 1 5 10 15  
 Ser Gln Ser Phe Gly Asn Ser Leu Gly Ala Arg Phe Asp Leu Pro Arg  
 20 25 30  
 Lys Glu Gln Asp Pro Ser Gln Ala Leu Ala Val Ala Ser Tyr Gln Asn  
 35 40 45  
 Lys Thr Asp Ser Gln Val Val Glu Glu His Leu Asp Glu Leu Ile Ser  
 50 55 60  
 Leu Ala Asp Ser Cys Gly Ile Ser Val Leu Glu Thr Arg Ser Trp Ile  
 65 70 75 80  
 Leu Lys Thr Pro Ser Ala Ser Thr Tyr Ile Asn Val Gly Lys Leu Glu  
 85 90 95  
 Glu Ile Glu Glu Ile Leu Lys Glu Phe Pro Ser Ile Gly Thr Leu Ile  
 100 105 110  
 Ile Asp Glu Glu Ile Thr Pro Ser Gln Gln Arg Asn Leu Glu Lys Arg  
 115 120 125  
 Leu Gly Leu Val Val Leu Asp Arg Thr Glu Leu Ile Leu Glu Ile Phe  
 130 135 140  
 Ser Ser Arg Ala Leu Thr Ala Glu Ala Asn Ile Gln Val Gln Leu Ala  
 145 150 155 160  
 Gln Ala Arg Tyr Leu Leu Pro Arg Leu Lys Arg Leu Trp Gly His Leu  
 165 170 175  
 Ser Arg Gln Lys Ser Gly Gly Gly Ser Gly Gly Phe Val Lys Gly Glu  
 180 185 190

Gly	Glu	Lys	Gln	Ile	Glu	Leu	Asp	Arg	Arg	Met	Val	Arg	Glu	Arg	Ile
		195					200					205			
His	Lys	Leu	Ser	Ala	Gln	Leu	Lys	Ala	Val	Ile	Lys	Gln	Arg	Ala	Glu
	210					215					220				
Arg	Arg	Lys	Val	Lys	Ser	Arg	Arg	Gly	Ile	Pro	Thr	Phe	Ala	Leu	Ile
225					230					235					240
Gly	Tyr	Thr	Asn	Ser	Gly	Lys	Ser	Thr	Leu	Leu	Asn	Leu	Leu	Thr	Ala
			245					250						255	
Ala	Asp	Thr	Tyr	Val	Glu	Asp	Lys	Leu	Phe	Ala	Thr	Leu	Asp	Pro	Lys
		260				265							270		
Thr	Arg	Lys	Cys	Val	Leu	Pro	Gly	Arg	His	Val	Leu	Leu	Thr	Asp	
	275					280				285					
Thr	Val	Gly	Phe	Ile	Arg	Lys	Leu	Pro	His	Thr	Leu	Val	Ala	Ala	Phe
	290					295				300					
Lys	Ser	Thr	Leu	Glu	Ala	Ala	Phe	His	Glu	Asp	Val	Leu	Leu	His	Val
305					310					315					320
Val	Asp	Ala	Ser	His	Pro	Leu	Ala	Leu	Glu	His	Val	Gln	Thr	Thr	Tyr
			325						330					335	
Asp	Leu	Phe	Gln	Glu	Leu	Lys	Ile	Glu	Lys	Pro	Arg	Ile	Ile	Thr	Val
		340						345					350		
Leu	Asn	Lys	Val	Asp	Arg	Leu	Pro	Gln	Gly	Ser	Ile	Pro	Met	Lys	Leu
	355					360						365			
Arg	Leu	Leu	Ser	Pro	Leu	Pro	Val	Leu	Ile	Ser	Ala	Lys	Thr	Gly	Glu
	370					375					380				
Gly	Ile	Gln	Asn	Leu	Leu	Ser	Leu	Met	Thr	Glu	Ile	Ile	Gln	Glu	Lys
385					390					395					400
Ser	Leu	His	Val	Thr	Leu	Asn	Phe	Pro	Tyr	Thr	Glu	Tyr	Gly	Lys	Phe
			405						410					415	
Thr	Glu	Leu	Cys	Asp	Ala	Gly	Val	Val	Ala	Ser	Ser	Arg	Tyr	Gln	Glu
		420					425						430		
Asp	Phe	Leu	Val	Val	Glu	Ala	Tyr	Leu	Pro	Lys	Glu	Leu	Gln	Lys	Lys
	435					440					445				
Phe	Arg	Pro	Phe	Ile	Ser	Tyr	Val	Phe	Pro	Glu	Asp	Cys	Gly	Asp	Asp
	450				455					460					
Glu	Gly	Arg	Gly	Pro	Val	Leu	Glu	Ser	Ser	Phe	Gly	Asp			
465					470					475					

<210> 481  
 <211> 273  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 481															
Ala	Ile	Gly	Met	Val	Arg	Asp	Ile	Gln	Ser	Glu	Ser	Ile	Gly	Lys	Leu
1				5					10					15	
Val	Phe	Leu	Gly	Thr	Gly	Asn	Pro	Glu	Gly	Ile	Pro	Val	Pro	Phe	Cys
		20						25					30		
Ser	Cys	Arg	Val	Cys	Gln	Asn	Thr	Gly	Ile	His	Arg	Leu	Arg	Ser	Ser
	35					40						45			
Val	Leu	Ile	Gln	Tyr	Gln	Asn	Lys	Thr	Leu	Val	Ile	Asp	Ala	Gly	Pro
	50					55					60				
Asp	Phe	Arg	Thr	Gln	Met	Leu	Val	Ala	Gly	Val	Ser	Glu	Leu	Asp	Gly
65				70					75					80	
Val	Phe	Leu	Thr	His	Pro	His	Tyr	Asp	His	Ile	Gly	Gly	Ile	Asp	Asp
				85				90						95	
Leu	Arg	Ala	Trp	Tyr	Ile	Val	Thr	Gln	Arg	Ser	Leu	Pro	Leu	Val	Leu
		100						105					110		
Ser	Ala	Ser	Thr	Tyr	Arg	Phe	Leu	Asn	Lys	Ala	Lys	Glu	Tyr	Leu	Phe
	115						120					125			
Ala	Thr	Pro	Asn	Val	Glu	Ser	Ser	Leu	Pro	Ala	Val	Leu	Glu	Phe	Thr
	130					135						140			

Ile	Leu	Asn	Glu	Asp	Cys	Gly	Gln	Glu	Glu	Phe	Gln	Gly	Ile	Pro	Tyr
145					150					155					160
Thr	Tyr	Val	Ser	Tyr	Tyr	Gln	Lys	Ser	Cys	His	Val	Thr	Gly	Phe	Arg
				165					170					175	
Phe	Gly	Asn	Leu	Ala	Tyr	Leu	Thr	Asp	Leu	Cys	Ser	Tyr	Asp	Ala	Lys
		180						185					190		
Ile	Phe	Ser	Tyr	Leu	Asp	Asn	Val	Glu	Thr	Leu	Ile	Leu	Ser	Ala	Gly
		195					200					205			
Pro	Ser	Glu	Thr	Pro	Ile	Pro	Phe	Gln	Gly	His	Lys	Ser	Ser	His	Leu
	210				215						220				
Thr	Val	Glu	Glu	Ala	Lys	Ala	Phe	Ala	Asn	His	Ala	Gly	Ile	Lys	Asn
225					230					235					240
Leu	Ile	Ile	Thr	His	Ile	Ser	His	Cys	Leu	Glu	Ala	Glu	Arg	Asp	Gln
				245				250						255	
His	Pro	Glu	Val	Thr	Phe	Ala	Tyr	Asp	Gly	Met	Glu	Val	Leu	Trp	Thr
			260					265					270		

Leu

<210> 482  
 <211> 242  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 482

Ser	Asp	Glu	Arg	Ile	Ser	Trp	Gly	Ile	Ser	Gly	Arg	Leu	Gly	Glu	Phe
1				5					10					15	
Val	Ser	Lys	Lys	Glu	Gln	Asp	Cys	Met	Leu	Gly	Ser	Leu	Pro	Cys	Tyr
			20					25					30		
Pro	Gly	Ala	Gly	Asn	Ile	Glu	Glu	Tyr	Lys	Asn	Arg	Tyr	Phe	Tyr	Cys
		35					40					45			
Gln	Leu	Cys	Ala	Glu	Val	Val	Ser	Pro	Tyr	Val	Val	Pro	Val	Ile	Val
	50					55					60				
Val	Asp	Val	Gln	Gly	Ala	Pro	Pro	Thr	Gly	Ile	Leu	Gln	Val	Leu	Arg
65					70					75					80
Cys	Lys	Gln	His	Lys	Phe	Gln	Gly	Leu	Pro	Val	His	Gly	Pro	Ile	Thr
			85						90					95	
Ser	Leu	Trp	Ala	Leu	Glu	Pro	Val	Gly	Lys	Gly	Ala	Pro	Gln	Leu	Glu
			100					105					110		
Ser	Ala	Met	Tyr	Glu	Leu	Cys	Ser	Gln	Val	Arg	Asn	Phe	Asp	Ile	Cys
		115					120					125			
Ser	Ile	Val	Ser	Trp	Val	Phe	Gly	Gly	Leu	Cys	Ile	Phe	Ala	Gly	Leu
					135						140				
Ile	Val	Gly	Val	Met	Val	Glu	Ala	Pro	Leu	Ile	Ala	Gly	Leu	Ser	Ala
145					150					155					160
Trp	Val	Ile	Pro	Cys	Ile	Ile	Gly	Gly	Val	Gly	Ala	Ile	Leu	Cys	Leu
				165					170					175	
Phe	Ala	Ile	Leu	Met	Ala	Tyr	Leu	Gly	Arg	Gly	Arg	Val	Arg	Glu	Trp
			180					185					190		
Leu	Asn	Leu	Ser	His	Glu	Tyr	Ile	Thr	Gln	Cys	His	Cys	Arg	Gln	Ile
		195					200					205			
Gln	Ala	His	Ser	Gln	Asn	Tyr	Ser	Val	Ile	Thr	Glu	Tyr	Pro	Ala	Thr
	210				215						220				
Cys	Ala	Leu	Ser	Gln	Pro	Ile	Thr	Lys	Leu	Pro	Asn	Gly	Ser	Arg	Arg
225					230					235					240

Asp Asn

<210> 483  
 <211> 545  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 483  
 Ser Cys Leu Arg Ile Glu Gly Ile Leu Met Ala Thr Ser Val Pro Val  
 1 5 10 15  
 Thr Ser Ser Thr Ser Val Gly Glu Ala Asn Ser Ser Asn Glu Arg Phe  
 20 25 30  
 Thr Glu Arg Thr Ser Arg Met Tyr Tyr Ala Ala Leu Val Leu Gly Ala  
 35 40 45  
 Leu Ser Cys Leu Ile Phe Ile Ala Met Ile Val Ile Phe Pro Gln Val  
 50 55 60  
 Gly Leu Trp Ala Val Val Leu Gly Phe Ala Leu Gly Cys Leu Leu Leu  
 65 70 75 80  
 Ser Leu Ala Ile Val Phe Ala Val Ser Gly Leu Val Leu Gly Lys Thr  
 85 90 95  
 Leu Glu Pro Ser Arg Glu Ala Thr Pro Pro Glu Ile Val Ala Gln Lys  
 100 105 110  
 Glu Trp Thr Thr Gln Gln Asp Val Leu Gly Asn Glu Tyr Trp Arg Ser  
 115 120 125  
 Glu Leu Ile Ser Leu Phe Leu Arg Gly Asp Leu His Glu Ser Leu Ile  
 130 135 140  
 Val Asp Ser Lys Asp Arg Ser Leu Asp Ile Asp Gln Ser Leu Gln Asn  
 145 150 155 160  
 Ile Leu Lys Leu Glu Pro Leu Ser Thr Thr Leu Ser Leu Leu Lys Lys  
 165 170 175  
 Asp Cys Val His Ile Asn Ile Ile Leu His Leu Val Arg Gln Trp Asn  
 180 185 190  
 Leu Leu Gly Val Asp Leu Ser Pro Glu Val Thr Ala His Ala Glu Glu  
 195 200 205  
 Leu Leu Leu Phe Leu Ile Glu Glu Gln Tyr Tyr Ser Pro Asp Ile Leu  
 210 215 220  
 Lys Leu Ile Arg Tyr Gly Asp Ala Leu Gln Ala Thr Ser Pro Leu Met  
 225 230 235 240  
 Asp Trp Ala Asp Ser Gly Ser Phe Ser Val Asp Ala Asp Gly Val Phe  
 245 250 255  
 Ser Cys Arg Arg Glu Glu Cys Ser Pro Glu Asp Ala Leu Ala Gln Phe  
 260 265 270  
 Asp Leu Leu Leu Ala Leu Glu Asn Pro Asp Arg Arg Phe Leu Lys Asp  
 275 280 285  
 Ser Phe Leu Thr Tyr Ile Trp Ser Ser Ser Phe Phe Glu Lys Phe Leu  
 290 295 300  
 His Arg His Leu Glu Ser Leu Gln Arg Lys Leu Pro Glu Thr Ala Ile  
 305 310 315 320  
 Asp Val Ala Arg Tyr Glu Ala Gln Ile Gln Thr Phe Leu Ser Arg Tyr  
 325 330 335  
 Phe Gln Lys Leu Asp Leu Ile Asn Ala Met Ser Leu Asp Trp Gly Tyr  
 340 345 350  
 Asn Cys Ala Glu Gly Glu Lys Cys Tyr Glu Ser Ala Asn Gln Arg Leu  
 355 360 365  
 Asp Asn Leu Phe Ile Ala Phe Ser Ser Ser Val Pro Ala Met Lys Arg  
 370 375 380  
 Leu Phe Asp Lys Tyr Gly Ser Val Val Arg Val Asp Arg Arg Gln Ile  
 385 390 395 400  
 Arg Glu Gln Ile Leu Ser Asn Thr Glu Ile Leu Glu Asn Glu Ser Gly  
 405 410 415  
 Phe Leu Cys Ser Leu Tyr Glu Tyr Pro Leu Ser Tyr Leu Ile Asp Trp  
 420 425 430

Ala Val Leu Leu Asp Cys Val Arg Gly Thr Glu Ile Ser Leu Glu Asp  
435 440 445  
Gln Ala Asp Tyr Thr Val Cys Leu Gln Gly Leu Asp Ser Met Leu Ser  
450 455 460  
Gln Phe Ala Ser Arg Leu Gln Ser Gly Gln Lys Val Leu Asn Pro Arg  
465 470 475 480  
Asp Val Leu Ser Glu Gln Ala Ala Val Met Leu Val His Gly Leu Ala  
485 490 495  
Ala Gln Gly Val Ser Phe Gln Gly Leu Lys Ala Leu Met Tyr Leu Thr  
500 505 510  
Ala Val Pro Gln Arg Met Trp Leu Gly Ala Leu Pro Leu Phe Glu Ser  
515 520 525  
Phe Pro Val Phe Asn Arg Met Lys Glu Phe Leu Gly Glu Ser Leu Gly  
530 535 540  
Asp  
545

<210> 484  
<211> 268  
<212> PRT  
<213> Chlamydia pneumoniae

<400> 484  
Asn Leu Ala Tyr Arg Ala Gln Thr Phe Met Ile Lys Gln Ile Gly Arg  
1 5 10 15  
Phe Phe Arg Ala Phe Ile Phe Ile Met Pro Leu Ser Leu Thr Ser Cys  
20 25 30  
Glu Ser Lys Ile Asp Arg Asn Arg Ile Trp Ile Val Gly Thr Asn Ala  
35 40 45  
Thr Tyr Pro Pro Phe Glu Tyr Val Asp Ala Gln Gly Glu Val Val Gly  
50 55 60  
Phe Asp Ile Asp Leu Ala Lys Ala Ile Ser Glu Lys Leu Gly Lys Gln  
65 70 75 80  
Leu Glu Val Arg Glu Phe Ala Phe Asp Ala Leu Ile Leu Asn Leu Lys  
85 90 95  
Lys His Arg Ile Asp Ala Ile Leu Ala Gly Met Ser Ile Thr Pro Ser  
100 105 110  
Arg Gln Lys Glu Ile Ala Leu Leu Pro Tyr Tyr Gly Asp Glu Val Gln  
115 120 125  
Glu Leu Met Val Val Ser Lys Arg Ser Leu Glu Thr Pro Val Leu Pro  
130 135 140  
Leu Thr Gln Tyr Ser Ser Val Ala Val Gln Thr Gly Thr Phe Gln Glu  
145 150 155 160  
His Tyr Leu Leu Ser Gln Pro Gly Ile Cys Val Arg Ser Phe Asp Ser  
165 170 175  
Thr Leu Glu Val Ile Met Glu Val Arg Tyr Gly Lys Ser Pro Val Ala  
180 185 190  
Val Leu Glu Pro Ser Val Gly Arg Val Val Leu Lys Asp Phe Pro Asn  
195 200 205  
Leu Val Ala Thr Arg Leu Glu Leu Pro Pro Glu Cys Trp Val Leu Gly  
210 215 220  
Cys Gly Leu Gly Val Ala Lys Asp Arg Pro Glu Glu Ile Gln Thr Ile  
225 230 235 240  
Gln Gln Ala Ile Thr Asp Leu Lys Ser Glu Gly Val Ile Gln Ser Leu  
245 250 255  
Thr Lys Lys Trp Gln Leu Ser Glu Val Ala Tyr Glu  
260 265

<210> 485  
 <211> 1045  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 485  
 Ile Ile Leu Ile Lys Lys Arg Ala Ile Phe Glu Arg Met Phe Pro Ile  
 1 5 10 15  
 Pro Pro Pro His Cys Pro Pro Asn Asn Lys Asn Asn Phe Tyr His Leu  
 20 25 30  
 Thr Thr Asp Thr Lys Asp Pro Leu Leu Arg Ile Leu Arg Thr Ile  
 35 40 45  
 Gly Tyr Val Leu Leu His Ile Thr Leu Gly Leu Leu Leu Ile  
 50 55 60  
 His Tyr Tyr Lys His His Arg Val Val Arg Lys Glu Gly Leu Pro Thr  
 65 70 75 80  
 Pro Pro Thr Leu Pro Lys Gly Pro Glu Pro Lys Thr Ile Glu Ile Ala  
 85 90 95  
 Lys Gln Pro Pro Lys Asp Gly Glu Asp Lys Lys Pro Asp Val Pro Lys  
 100 105 110  
 Pro Gly Thr Pro Pro Pro Glu Asp Thr Pro Pro Pro Pro Lys Ala  
 115 120 125  
 Pro Ser Pro Ala Ser Pro Lys Val Pro Lys Gln Pro Ala Asp Lys Lys  
 130 135 140  
 Pro Thr Pro Pro Pro Glu Ala Pro Pro Pro Pro Val Arg Val Ala Thr  
 145 150 155 160  
 Pro Met Pro Leu Arg Pro Ser Ser Gln Gly Tyr Trp Gln Cys Leu Asn  
 165 170 175  
 Arg Met Val Ser Met Val Leu Arg Arg Ala Pro Leu Pro Leu Pro Ala  
 180 185 190  
 Met Gln Val Asp Pro Ile Leu Gly Asp Phe Asn Pro His Phe Val Ala  
 195 200 205  
 Ser Tyr Pro Asn Arg Ile Asp Asn Glu Pro Met Tyr Phe Gln Ile Lys  
 210 215 220  
 Gln Phe Lys Lys Ile Ala Gln Asn Pro Asp Leu Pro Gln Gln His Arg  
 225 230 235 240  
 Arg Leu Ala Gln Leu Ser Leu Glu Gln Ala Leu Tyr Leu Asn Asp Asn  
 245 250 255  
 Tyr Tyr Leu Val Asn Val Pro Gly Asp Gly Asn Cys Phe Tyr Arg Ala  
 260 265 270  
 Tyr Ala Val Gly Trp Leu Ser Ala Leu Tyr Glu Glu Ser Ser Arg Asn  
 275 280 285  
 Asp Ile Val Phe Glu Gln Glu Ala Thr Arg Leu Leu Asp Leu Pro Phe  
 290 295 300  
 Ala Ser Ser Ser Pro Ala Asn Ala Asn Leu Cys Ala Glu Met Ala Glu  
 305 310 315 320  
 Leu Leu Gln Leu Cys Ser Thr Tyr Cys Ser Phe Ile Asp Leu Tyr Asp  
 325 330 335  
 Gly Val Ile Leu Ser Gln Lys His Thr Ala Thr Leu Ile Ala Phe Leu  
 340 345 350  
 Arg Lys Leu Ser Ala Tyr Ala Ile Arg Gln Gln Ile Ala Ala Ser Ser  
 355 360 365  
 Asn Glu Glu Thr Ala Arg Ala Leu Phe Ile Ser Asp Met Gln Asp Asp  
 370 375 380  
 Leu Leu Pro Ser Val Leu Glu Phe Leu Ala Ala Asn Arg Pro Tyr Ser  
 385 390 395 400  
 Glu Leu Phe Gln Asn Leu Ile Asp His Ser Ala Leu Pro Tyr Met Gln  
 405 410 415  
 Ser Arg Asp Lys Leu Phe Leu Leu Leu Glu His Leu Pro Ala Leu Phe  
 420 425 430

Leu	Thr	Asp	Ala	Glu	Leu	Gln	Lys	Met	Ser	Pro	Glu	Asp	Gln	Gln	Leu
		435					440					445			
Arg	Lys	Gln	Tyr	Glu	Arg	Glu	Ile	Arg	Glu	Ala	Phe	Ala	Lys	Leu	Ser
	450					455					460				
Arg	Arg	Ile	Ala	Asp	Ser	Gly	Trp	Asp	Thr	Glu	Arg	Phe	Asn	Ala	Ile
465					470					475					480
Val	Lys	Asp	His	Leu	Pro	Glu	Ala	Ile	Arg	Cys	Gln	Tyr	Ser	Arg	Phe
			485						490					495	
Leu	Ala	Thr	Ile	Glu	Asn	Arg	Arg	Ser	Gly	Asp	Leu	Pro	Trp	Ser	Pro
			500					505					510		
Ala	Leu	Ser	Phe	Phe	Ala	Phe	Leu	Cys	Thr	Cys	Pro	Ser	Val	Arg	Phe
	515						520					525			
His	Lys	Leu	Cys	Ala	Thr	Phe	Tyr	Lys	Ser	Leu	Glu	Asp	Ile	Ile	Ile
	530					535					540				
Ala	Ser	Ala	Pro	Pro	Gln	Arg	Ser	Ile	Gln	Glu	Ile	Leu	Gln	Ile	Ser
545					550					555					560
Asn	Ala	Ser	Leu	Ser	Tyr	Leu	Asn	Glu	Asp	Leu	Asp	Ser	Ser	Trp	Gln
				565					570					575	
Arg	Glu	Val	Ile	Ser	Ser	Asn	Ile	Met	Thr	Ile	Leu	Thr	Thr	His	Glu
			580					585					590		
Ser	Leu	Thr	Leu	Glu	Ser	Ser	Met	Pro	Gln	Leu	Glu	Thr	Leu	His	Lys
	595						600					605			
Arg	Ile	Ala	Asn	Leu	Leu	Lys	Asn	Val	Ile	Ser	Thr	Ser	Phe	Glu	Thr
	610					615					620				
Pro	Pro	Leu	Ser	Asn	Gln	Pro	Asp	Leu	Leu	Ser	Asn	Leu	Val	Asn	Lys
625					630					635					640
Leu	Leu	Val	Ala	Ile	His	Ser	Lys	Leu	Glu	Leu	Lys	Glu	His	Phe	Asn
				645					650					655	
Thr	Val	Cys	Ser	Ala	Arg	Ser	Leu	Arg	Leu	Thr	Arg	Asp	Glu	Gly	Ser
			660					665					670		
Gly	Leu	Ser	Gln	Glu	Gln	Asp	Leu	Leu	Tyr	Thr	Gln	Ala	Val	Gln	Leu
		675					680				685				
Leu	Phe	Phe	Ile	Leu	Gln	His	Pro	Gln	Val	Asn	Asn	Arg	Pro	Glu	Thr
	690					695				700					
Lys	Asp	Ala	Val	Lys	Glu	Leu	Lys	Met	Leu	Leu	Leu	Pro	Phe	Leu	Gln
705					710					715					720
Tyr	Ala	Phe	Lys	Lys	Val	Glu	Asn	Glu	Lys	Lys	Leu	Gln	Lys	Leu	Leu
				725					730					735	
Arg	Ser	Ile	Leu	Gly	Ser	Leu	Val	Leu	Lys	Pro	Pro	Ala	Arg	Tyr	Pro
			740					745					750		
Ser	Thr	Pro	Ser	Asn	Lys	Asp	Lys	Glu	Thr	Phe	Cys	Lys	Phe	Trp	Ser
		755					760					765			
Arg	His	Pro	Glu	Val	Met	Val	Leu	Asp	Pro	Ile	Leu	Glu	Lys	Asn	Cys
	770					775					780				
Met	Gln	Phe	Leu	Arg	Ala	Thr	Phe	Pro	Asn	Tyr	Gln	Leu	Glu	Thr	Glu
785					790					795					800
Ala	Ile	Leu	Leu	Glu	Lys	Glu	Ile	Glu	Ser	Thr	Phe	Arg	Asn	Gly	Trp
				805					810					815	
Asn	Val	Phe	Leu	Thr	Arg	Leu	Asn	Leu	Phe	Gly	Ser	Lys	Leu	Gly	Ser
			820					825					830		
Pro	Ser	Ser	Pro	Thr	Ala	Leu	Ser	Asp	Gln	Phe	Ser	Lys	Ser	Phe	Leu
			835				840					845			
Ile	Phe	Cys	Phe	Leu	Asn	Asn	Tyr	Pro	Lys	Leu	Leu	Gln	Lys	Lys	Thr
	850					855					860				
Pro	Leu	Ala	Ala	Arg	Leu	Asp	Ala	Phe	Gln	Arg	Glu	Ala	Ser	His	Arg
865					870					875					880
Phe	Thr	Gln	Val	Lys	Asp	Lys	Leu	Leu	Leu	Ser	Leu	Lys	Tyr	Gly	Phe
				885					890					895	
Pro	Leu	Ala	Thr	Ala	Thr	Ile	Asn	Gln	Tyr	Ser	Arg	Ala	Arg	Asp	Gln
			900					905					910		

Leu	Ile	Cys	Asn	Leu	Leu	Lys	Asn	Thr	Val	Thr	Ala	Ser	Asp	Gly	Phe
		915					920					925			
Cys	Arg	Ser	Gly	Phe	Arg	Gln	Ser	Leu	Ile	Gly	Tyr	Leu	His	Ser	Leu
	930					935					940				
Ser	Ser	Asn	Glu	Leu	Gly	Asp	Ile	Leu	Asp	Asp	Val	Lys	Glu	Gln	Ala
945					950					955					960
Glu	Ala	Asn	Asp	Val	Ala	Ala	Met	Thr	Thr	Val	Pro	Leu	Gln	Pro	Phe
			965						970						975
Ala	Val	Cys	Leu	Ile	Met	Ser	Asp	Arg	Asp	Thr	Val	Ser	Glu	Glu	Asn
			980					985					990		
Ile	Glu	Asn	Phe	Val	Ala	Met	His	Gly	Phe	Leu	Asn	Thr	Ile	Ser	Pro
		995					1000						1005		
Glu	Arg	Asp	Ala	Arg	Ile	Phe	Leu	Ile	Arg	Phe	Pro	Asn	His	Tyr	Gly
	1010					1015					1020				
Cys	Leu	Leu	Pro	Arg	Asn	Pro	Arg	Thr	Glu	Asp	Gln	Asn	Ser	Lys	Pro
1025					1030					1035					1040
Asp	Ser	Ser	Asn	Pro											
				1045											

<210> 486  
 <211> 298  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 486

Arg	Ser	Glu	Leu	Lys	Thr	Gly	Gln	Leu	Lys	Ser	Leu	Val	Leu	His	Glu
1				5					10					15	
Val	Leu	Ile	Leu	Thr	Phe	Thr	Tyr	Pro	Leu	Pro	Arg	Thr	Leu	Lys	Gln
			20					25					30		
His	Pro	Asp	Glu	Val	His	Thr	Val	Pro	Ile	Ser	Pro	Asn	Leu	Ser	Phe
		35					40					45			
Gly	Glu	Gly	Ser	Pro	Ile	Leu	Ile	Ala	Gly	Pro	Cys	Thr	Leu	Glu	Ser
	50					55					60				
Tyr	Glu	His	Thr	Val	Ser	Ser	Ala	Leu	Thr	Val	Lys	Glu	Ala	Gly	Ala
65					70					75					80
Gln	Val	Phe	Arg	Gly	Ser	Ile	Arg	Lys	Pro	Arg	Thr	Ser	Pro	Phe	Ser
			85					90						95	
Phe	Gln	Gly	Trp	Glu	Lys	Glu	Cys	Val	Leu	Trp	His	Lys	Glu	Ala	Gln
			100					105					110		
Ser	Ile	His	Gly	Leu	Pro	Thr	Glu	Thr	Glu	Val	Leu	Asp	Val	Arg	Asp
		115					120					125			
Val	Glu	Ile	Thr	Ala	Glu	His	Val	Asp	Ile	Leu	Arg	Ile	Gly	Ala	Lys
	130					135					140				
Asn	Met	His	Asn	Thr	Pro	Leu	Leu	Gln	Glu	Val	Ser	Lys	Ser	His	Arg
145					150					155					160
Pro	Ile	Ile	Leu	Lys	Arg	Ser	Pro	Ala	Ala	Thr	Leu	Glu	Glu	Trp	Leu
			165						170					175	
Cys	Ala	Ala	Glu	Tyr	Ile	Leu	Ala	Ser	Ser	Pro	Ser	Cys	Pro	Gly	Val
			180				185						190		
Ile	Leu	Cys	Glu	Arg	Gly	Ile	Arg	Thr	Phe	Glu	His	Ser	Thr	Arg	Tyr
	195						200					205			
Thr	Leu	Asp	Leu	Asn	Thr	Val	Ala	Leu	Leu	Lys	Glu	Ile	Ser	Ser	Leu
	210					215					220				
Pro	Val	Ile	Val	Asp	Pro	Ser	His	Ala	Ala	Gly	Lys	Arg	Ser	Leu	Val
225					230					235					240
Leu	Pro	Leu	Ala	Ser	Ala	Gly	Leu	Ser	Val	Gly	Ala	Asp	Gly	Leu	Met
			245						250					255	
Ile	Glu	Val	His	Ala	His	Pro	Glu	Lys	Ala	Leu	Cys	Asp	Ala	Lys	Gln
		260						265					270		
Gln	Ile	Thr	Pro	Glu	Glu	Leu	His	Leu	Phe	Ala	Lys	Lys	His	Phe	Cys
	275						280						285		



Pro Ser Glu Ser Arg Ala His Ala Ile Ser  
290 295

<210> 487  
<211> 79  
<212> PRT  
<213> Chlamydia pneumoniae

<400> 487  
Gln Pro Ile Gly Arg Thr Pro Thr Arg Val Phe Leu Trp Arg Phe Met  
1 5 10 15  
Ile Lys Gln Ala Cys Lys Phe Tyr Leu Leu Gln Cys Leu Leu Cys Ala  
20 25 30  
Leu Tyr Trp Leu Leu Lys Tyr Cys Arg Lys Leu Leu Lys Gly Thr Leu  
35 40 45  
His His Ser Glu Glu Thr Leu Tyr Gln Ala Leu Leu Ser Ser Leu Ile  
50 55 60  
Asp Leu Leu Tyr Gln Leu Lys Gln Leu Pro Ala Pro Thr Asn Glu  
65 70 75

<210> 488  
<211> 465  
<212> PRT  
<213> Chlamydia pneumoniae

<400> 488  
Ala Gln His Arg Ser Leu Leu Lys Gly Asn Ile Phe His Leu Gly Cys  
1 5 10 15  
Gly Val Leu Tyr Phe Met Asn Phe Ser Leu Phe Leu Phe Phe Leu Ile  
20 25 30  
Ala Ile Gln Gly Ile Cys Leu Tyr Val Gly Arg Arg Gly Ser Lys Lys  
35 40 45  
Val Glu Asp Arg Glu Ser Tyr Phe Leu Ala Gly Arg Ser Leu Lys Ile  
50 55 60  
Phe Pro Leu Met Met Thr Phe Ile Ala Thr Gln Ile Gly Gly Gly Val  
65 70 75 80  
Leu Leu Gly Ala Ala Glu Glu Ala Phe Cys Tyr Gly Tyr Gly Gly Ile  
85 90 95  
Leu Tyr Pro Leu Gly Val Ala Leu Gly Leu Ile Phe Leu Gly Met Gly  
100 105 110  
Pro Gly Lys Arg Leu Ala Glu Gly Ser Leu Thr Thr Val Val Ser Ile  
115 120 125  
Phe Glu Val Phe Tyr Gly Ser Lys Lys Leu Arg Lys Ile Ala Phe Leu  
130 135 140  
Leu Ser Ala Gly Ser Leu Phe Phe Ile Leu Val Ala Gln Val Ile Ala  
145 150 155 160  
Leu Asp Arg Leu Phe Ser Ser Phe Pro Phe Gly Lys Tyr Val Thr Val  
165 170 175  
Ala Phe Trp Ile Val Leu Ala Ser Tyr Thr Ser Thr Gly Gly Phe Arg  
180 185 190  
Gly Val Val Arg Thr Asp Val Ile Gln Ala Gly Phe Leu Leu Ile Ala  
195 200 205  
Val Leu Val Cys Gly Val Ser Val Trp Leu Ser Val Pro Lys Ser Leu  
210 215 220  
Ser Val Leu Asp Pro Phe Gln Ser Leu Pro Cys Ala Lys Leu Ser Asn  
225 230 235 240  
Trp Ile Phe Met Pro Met Leu Phe Met Leu Val Glu Gln Asp Met Val  
245 250 255  
Gln Arg Cys Val Ala Ala Ser Ser Pro Lys Arg Leu Gln Trp Ala Ala  
260 265 270

Val Gly Ala Gly Leu Val Leu Leu Leu Phe Asn Phe Ile Pro Leu Phe  
 275 280 285  
 Leu Gly Ser Leu Gly Ala Lys Ala Gly Leu Lys Ala Gly Cys Pro Leu  
 290 295 300  
 Ile Asp Thr Ile Ala Tyr Phe Cys Asn Pro Ser Leu Ala Ala Val Met  
 305 310 315 320  
 Ala Ala Ala Ile Gly Val Ala Ile Leu Ser Thr Ala Asp Ser Leu Met  
 325 330 335  
 Asn Ala Val Ser Gln Leu Ile Ala Glu Glu Tyr Pro Thr Leu Lys Ala  
 340 345 350  
 Pro Tyr Tyr Arg Tyr Leu Val Leu Gly Leu Ala Val Ala Ala Pro Leu  
 355 360 365  
 Val Ala Ile Gly Phe Thr Asn Ile Val Asp Val Leu Ile Leu Ser Tyr  
 370 375 380  
 Ser Leu Ser Val Cys Cys Leu Ser Val Pro Val Gly Phe Tyr Leu Leu  
 385 390 395 400  
 Ala Pro Lys Gly Arg Arg Val Ser Gly Ala Ala Ala Trp Ala Gly Val  
 405 410 415  
 Leu Val Gly Ala Leu Gly Tyr Gly Trp Val Gln Ile Val Ser Leu Gly  
 420 425 430  
 Met Phe Gly Glu Leu Leu Ala Trp Val Gly Ser Leu Val Ala Phe Ser  
 435 440 445  
 Phe Val Gly Phe Ile Glu Ile Thr Trp Lys Asn Lys Val Lys Thr Gln  
 450 455 460  
 Thr  
 465

<210> 489

<211> 574

<212> PRT

<213> Chlamydia pneumoniae

<400> 489

Arg Arg Thr Gly Gly Ile Ser Leu Thr Tyr Ser Ser Phe Arg Trp Ala  
 1 5 10 15  
 Ser Phe Arg Cys Tyr Ser Leu Ile Phe Phe Cys Phe Cys Gly Ser Leu  
 20 25 30  
 Phe Gly Ser Glu Ser Leu Arg Tyr Gln Leu Leu Ile Gln Asp Phe Ala  
 35 40 45  
 Lys Val Ser Glu Glu Gly Ile Gly Leu Leu Glu Ser Lys Glu Tyr Ser  
 50 55 60  
 Leu Leu Gln Ala Lys Leu Val Leu Arg Ala Leu Ala Gln Asn Ser Ser  
 65 70 75 80  
 Phe Asp Asp Trp Phe Arg Ser Phe Lys Lys Cys Gln Ile Ser Tyr Pro  
 85 90 95  
 Glu Leu Ala His Asp Arg Asp Val Leu Glu Glu Phe Gly Ile Gln Val  
 100 105 110  
 Leu Arg Glu Gly Ile Glu Asn Pro Ser Val Thr Val Arg Ala Val Ser  
 115 120 125  
 Val Leu Ala Ile Gly Leu Ala Arg Asp Phe Arg Leu Val Pro Leu Leu  
 130 135 140  
 Leu Gln Ser Cys Asn Asp Asp Ser Ala Ile Val Arg Ser Leu Ala Leu  
 145 150 155 160  
 Gln Val Ala Val Asn Tyr Gly Ser Glu Ser Leu Lys Lys Ala Ile Val  
 165 170 175  
 Glu Leu Ala Arg Asn Asp Asp Ser Ile His Val Arg Ile Thr Ala Tyr  
 180 185 190  
 Gln Val Val Ala Leu Leu Gln Ile Glu Glu Leu Leu Pro Phe Leu Arg  
 195 200 205  
 Glu Arg Ala Glu Asn Lys Leu Val Asp Ser Val Glu Arg Arg Glu Ala  
 210 215 220

Trp	Lys	Ala	Cys	Leu	Glu	Leu	Ser	Ser	Gln	Phe	Leu	Glu	Thr	Gly	Val
225					230					235					240
Ala	Lys	Asp	Asp	Ile	Asp	Gln	Ala	Leu	Phe	Thr	Cys	Glu	Val	Leu	Arg
				245					250					255	
Asn	Gly	Met	Leu	Pro	Glu	Thr	Thr	Glu	Ile	Phe	Thr	Glu	Leu	Leu	Ser
			260					265					270		
Val	Glu	His	Pro	Glu	Val	Gln	Glu	Ser	Leu	Leu	Leu	Ser	Ala	Leu	Ala
		275					280					285			
Trp	Ser	His	Gln	Leu	Gln	Asn	His	Lys	Glu	Phe	Leu	Ser	Lys	Val	Arg
	290					295					300				
His	Val	Met	Cys	Thr	Ser	Pro	Phe	Ala	Lys	Val	Arg	Phe	Gln	Ala	Ala
305					310					315					320
Ala	Leu	Leu	His	Leu	His	Gly	Asp	Pro	Leu	Gly	Arg	Asp	Ser	Leu	Val
			325						330					335	
Glu	Gly	Leu	Arg	Ser	Pro	Gln	Pro	Leu	Val	Cys	Glu	Ala	Ala	Ser	Ala
			340					345					350		
Ala	Leu	Cys	Ser	Leu	Gly	Ile	His	Gly	Val	Pro	Leu	Ala	Lys	Glu	His
		355					360					365			
Leu	Glu	Ser	Leu	Ser	Ser	Arg	Lys	Ala	Ala	Ala	Asn	Leu	Ser	Ile	Leu
	370					375					380				
Leu	Leu	Val	Ser	Arg	Glu	Asp	Ile	Glu	Arg	Ala	Gly	Asp	Val	Ile	Ala
385					390					395					400
Arg	Tyr	Leu	Ser	Asn	Pro	Glu	Met	Cys	Trp	Ala	Ile	Glu	Tyr	Phe	Leu
				405					410					415	
Trp	Asp	Ala	Gln	Trp	Asn	Leu	Arg	Gly	Asp	Thr	Phe	Pro	Leu	Tyr	Ser
			420					425					430		
Asp	Met	Ile	Lys	Arg	Glu	Ile	Gly	Arg	Lys	Leu	Ile	Arg	Leu	Leu	Ala
		435					440					445			
Val	Ala	Arg	Tyr	Ser	Gln	Ala	Lys	Ala	Val	Thr	Ala	Thr	Phe	Leu	Ser
		450				455					460				
Gly	Gln	Gln	Ala	Gln	Gly	Trp	Ser	Phe	Phe	Ser	Gly	Met	Phe	Trp	Glu
465					470					475					480
Glu	Gly	Asp	Val	Lys	Thr	Ser	Glu	Asp	Leu	Val	Thr	Asp	Ala	Cys	Phe
				485					490					495	
Ala	Ala	Lys	Leu	Glu	Gly	Ala	Leu	Ala	Ser	Leu	Cys	Gln	Lys	Lys	Asp
			500					505					510		
Gln	Ala	Ser	Leu	Gln	Arg	Val	Ser	Gln	Leu	Tyr	Asn	Asp	Ser	Arg	Trp
		515					520					525			
Gln	Asp	Lys	Leu	Ala	Ile	Leu	Glu	Ser	Val	Ala	Phe	Ser	Glu	Asn	Leu
	530					535					540				
Asp	Ala	Val	Pro	Phe	Leu	Leu	Asp	Cys	Cys	His	His	Glu	Ala	Pro	Ser
545					550					555					560
Leu	Arg	Ser	Ala	Ala	Ala	Gly	Ala	Leu	Phe	Ser	Ile	Phe	Lys		
				565					570						

<210> 490

<211> 127

<212> PRT

<213> Chlamydia pneumoniae

<400> 490

Arg	Lys	Leu	Pro	Thr	Cys	Phe	Ala	Val	Asn	Val	Thr	Arg	Ser	Arg	Asp
1				5					10					15	
His	Met	Thr	Val	Phe	Lys	Gln	Ile	Ile	Asp	Gly	Leu	Ile	Asp	Cys	Glu
			20					25					30		
Lys	Val	Phe	Glu	Asn	Glu	Asn	Phe	Ile	Ala	Ile	Lys	Asp	Arg	Phe	Pro
		35					40					45			
Gln	Ala	Pro	Val	His	Leu	Leu	Ile	Ile	Pro	Lys	Lys	Pro	Ile	Pro	Arg
	50					55					60				
Phe	Gln	Asp	Ile	Pro	Gly	Asp	Glu	Met	Ile	Leu	Met	Ala	Glu	Ala	Gly
65					70						75				80

Lys	Ile	Val	Gln	Glu	Leu	Ala	Ala	Glu	Phe	Gly	Ile	Ala	Asp	Gly	Tyr
			85						90					95	
Arg	Val	Val	Ile	Asn	Asn	Gly	Ala	Glu	Gly	Gly	Gln	Ala	Val	Phe	His
			100					105					110		
Leu	His	Ile	His	Leu	Leu	Gly	Gly	Arg	Pro	Leu	Gly	Ala	Ile	Ala	
		115					120					125			

<210> 491

<211> 314

<212> PRT

<213> Chlamydia pneumoniae

<400> 491

Arg	Ile	Val	Phe	Ala	Ile	Glu	Asn	Tyr	Phe	Ser	Leu	Val	Thr	Met	Glu
1			5						10					15	
Asp	Trp	Leu	Arg	Arg	Ile	Val	Gly	Met	Gln	Ile	Pro	Arg	Ser	Ile	Gly
			20					25					30		
Thr	His	Asp	Gly	Ser	Phe	His	Ala	Asp	Glu	Val	Thr	Ala	Cys	Ala	Leu
		35					40					45			
Leu	Ile	Ile	Phe	Asp	Leu	Val	Asp	Glu	Asn	Lys	Ile	Ile	Arg	Ser	Arg
	50					55					60				
Asp	Pro	Val	Val	Leu	Ser	Lys	Cys	Glu	Tyr	Val	Cys	Asp	Val	Gly	Gly
65					70				75					80	
Val	Tyr	Ser	Ile	Glu	Asn	Lys	Arg	Phe	Asp	His	His	Gln	Val	Ser	Tyr
				85					90					95	
Asp	Gly	Ser	Trp	Ser	Ser	Ala	Gly	Met	Ile	Leu	His	Tyr	Leu	Lys	Glu
			100					105					110		
Phe	Gly	Tyr	Met	Asp	Cys	Glu	Glu	Tyr	His	Phe	Leu	Asn	Asn	Thr	Leu
		115					120					125			
Val	His	Gly	Val	Asp	Glu	Gln	Asp	Asn	Gly	Arg	Phe	Phe	Ser	Lys	Glu
	130					135					140				
Gly	Phe	Cys	Ser	Phe	Ser	Asp	Ile	Ile	Lys	Ile	Tyr	Asn	Pro	Arg	Glu
145					150					155					160
Glu	Glu	Glu	Thr	Asn	Ser	Asp	Ala	Asp	Phe	Ser	Cys	Ala	Leu	His	Phe
				165					170					175	
Thr	Ile	Asp	Phe	Leu	Cys	Arg	Leu	Arg	Lys	Lys	Phe	Gln	Tyr	Asp	Arg
			180					185					190		
Val	Cys	Arg	Gly	Ile	Val	Arg	Glu	Ala	Met	Glu	Thr	Glu	Asp	Met	Cys
		195					200					205			
Leu	Tyr	Phe	Asp	Arg	Pro	Leu	Ala	Trp	Gln	Glu	Asn	Phe	Phe	Phe	Leu
	210					215					220				
Gly	Gly	Glu	Lys	His	Pro	Ala	Ala	Phe	Val	Cys	Phe	Pro	Ser	Cys	Asp
225					230					235					240
Gln	Trp	Ile	Leu	Arg	Gly	Ile	Pro	Pro	Asn	Leu	Asp	Arg	Arg	Met	Asp
				245					250					255	
Val	Arg	Val	Pro	Phe	Pro	Glu	Asn	Trp	Ala	Gly	Leu	Leu	Gly	Lys	Glu
			260					265					270		
Leu	Ser	Lys	Val	Ser	Gly	Ile	Pro	Gly	Ala	Val	Phe	Cys	His	Lys	Gly
		275					280					285			
Leu	Phe	Leu	Ser	Val	Trp	Thr	Asn	Arg	Glu	Ser	Cys	Gln	Arg	Ala	Leu
	290					295					300				
Arg	Leu	Thr	Leu	Gln	Asp	Arg	Gly	Ile	Ile						
305					310										

<210> 492

<211> 686

<212> PRT

<213> Chlamydia pneumoniae

<400> 492

Ile	Met	Tyr	Asn	Leu	Leu	His	Ala	His	His	Asp	Ala	Ala	Ser	Pro	Asp	1	5	10	15
Gly	Arg	Leu	Val	Ser	His	Leu	Lys	Lys	Leu	Ser	Pro	His	Ile	Tyr	Glu	20	25	30	
Gly	Glu	Val	Leu	Ile	Glu	Asn	Ile	Pro	Ala	Tyr	Phe	Leu	Gly	Phe	His	35	40	45	
Leu	Pro	Gln	Gln	Cys	Ile	Gln	Val	Asn	Leu	Lys	Ser	Ser	Leu	Ala	Gln	50	55	60	
Leu	Gly	Val	Glu	Ala	Val	Leu	Asn	His	Leu	Glu	Leu	Asn	Lys	Ala	Arg	65	70	75	80
Lys	Glu	Ala	Arg	Leu	His	Val	Leu	Phe	Met	Ser	Gln	Asp	Pro	Ile	Ala	85	90	95	
Thr	Ala	Met	Leu	Glu	Leu	Leu	Glu	Pro	Gly	Ser	Phe	Val	Cys	Lys	Leu	100	105	110	
Phe	Ala	Ala	Asp	Asp	Arg	Arg	Leu	Val	Arg	Ser	Pro	Cys	Tyr	Leu	Asn	115	120	125	
Arg	Met	Phe	Thr	His	Thr	Asp	Arg	Thr	Gly	Ser	Pro	Leu	Leu	Arg	Phe	130	135	140	
Gly	Lys	Lys	Leu	Glu	His	Phe	Ile	Thr	Leu	Glu	Ile	Ile	Asn	Asp	Arg	145	150	155	160
Leu	Val	Val	Phe	Leu	Pro	Ile	Leu	Pro	Gly	Thr	Ile	Cys	Tyr	Glu	Glu	165	170	175	
Thr	Ile	Tyr	Gly	Phe	Leu	Pro	Leu	Met	Ser	Lys	Ser	Leu	Thr	Arg	Pro	180	185	190	
His	Leu	Lys	Ile	Arg	Lys	Phe	Leu	Pro	Leu	Tyr	Gln	Met	Val	Thr	Asp	195	200	205	
Arg	Pro	Pro	Val	Pro	Glu	Asp	His	Lys	Ile	Leu	Leu	Ile	Lys	Thr	Glu	210	215	220	
Pro	Leu	His	Ile	Arg	Thr	Val	Phe	Ala	Arg	Val	Val	Gln	Asp	Leu	Leu	225	230	235	240
Pro	Gln	Gly	Leu	Arg	His	Thr	Ala	Ala	Asp	Ile	Leu	Glu	Pro	Thr	Thr	245	250	255	
Gln	Glu	Ser	Gly	Asp	Ile	Tyr	Glu	Phe	Tyr	Gly	Ser	Thr	Ser	Glu	Pro	260	265	270	
Ile	Glu	Arg	Ile	Pro	Leu	Glu	Phe	Phe	Thr	Leu	Glu	Pro	Tyr	Lys	Glu	275	280	285	
His	Ser	Phe	Phe	Phe	Tyr	Arg	Asp	Met	Leu	Gln	Glu	Thr	Leu	Glu	Ser	290	295	300	
Pro	Gln	Glu	Val	Phe	Arg	Val	Phe	Glu	Ser	Ile	Pro	Glu	Gly	Glu	Asp	305	310	315	320
Gln	Ala	Ala	Met	Phe	Ile	Ser	Lys	Gly	Ser	Glu	Leu	Leu	Glu	Leu	Ser	325	330	335	
Gln	Asp	Ser	Trp	Ile	Ile	Lys	Pro	Arg	Ile	Ser	Pro	Ser	Asp	Glu	Arg	340	345	350	
His	Ala	Arg	Glu	Ile	Gln	Lys	His	Ile	Glu	Asp	Gln	Pro	Cys	Phe	Pro	355	360	365	
Phe	Leu	Lys	Ala	Met	Glu	Thr	Asp	His	Ile	Thr	Ser	Gln	Gly	Val	Leu	370	375	380	
Phe	Ser	Arg	Tyr	Phe	Pro	Ser	Ala	Ser	Leu	Lys	Gly	Met	Phe	Leu	Ser	385	390	395	400
Asn	Tyr	Ser	Arg	Tyr	Tyr	Leu	Gln	His	Ile	Tyr	Phe	Gln	Ile	Pro	Ser	405	410	415	
Pro	Thr	Ser	Gly	Glu	Phe	Phe	Ser	Asn	Arg	Asp	Arg	Ser	Phe	Leu	Leu	420	425	430	
Asp	Leu	Tyr	Phe	Ala	Gly	Ile	Ser	Val	Phe	Trp	Ala	Asp	Leu	Glu	Ser	435	440	445	
Lys	Arg	Leu	Leu	Gln	Tyr	Ile	Lys	Arg	Arg	Asn	Lys	Asp	Val	Gly	Met	450	455	460	
Phe	Val	Pro	Lys	His	Gln	Ala	Glu	Gln	Phe	Ala	Gln	Ser	Tyr	Phe	Ile	465	470	475	480

Gly	Ile	His	Gly	Ser	Cys	Leu	Ile	Ala	Gly	Asp	Tyr	Asp	Glu	Phe	Leu
				485					490					495	
Arg	Glu	Leu	Leu	Thr	Gly	Met	His	Thr	Leu	Ser	Gln	Gln	Phe	Thr	Ile
			500					505						510	
Pro	Glu	Phe	Pro	Pro	Gln	Thr	Pro	Leu	Ala	Ile	Leu	Thr	Gly	Gly	Gly
		515					520						525		
Ser	Gly	Ala	Met	Glu	Leu	Ala	Asn	Arg	Val	Ala	Thr	Glu	Leu	Ser	Ile
	530					535					540				
Leu	Ser	Cys	Gly	Asn	Leu	Ile	Ser	Leu	Asp	Thr	Thr	Asn	Ala	Tyr	Val
545				550						555					560
Glu	Ala	Lys	Met	Ser	Tyr	Ala	Ile	Pro	Asp	Leu	Leu	Glu	Arg	Gln	Ala
			565						570					575	
Asp	Phe	His	Val	Asp	Leu	Ala	Val	Phe	Val	Ile	Gly	Gly	Met	Gly	Thr
			580					585						590	
Asp	Phe	Glu	Leu	Leu	Leu	Glu	Leu	Ile	Ser	Leu	Lys	Thr	Gly	Lys	Lys
		595					600						605		
Ala	Leu	Val	Pro	Val	Phe	Leu	Ile	Gly	Pro	Val	Asp	Tyr	Trp	Lys	Ser
	610					615						620			
Lys	Ile	Thr	Ala	Leu	Tyr	Asn	Ser	Asn	His	Ala	Val	Gly	Thr	Ile	Arg
625					630					635					640
Gly	Ser	Glu	Trp	Val	His	Asn	Cys	Leu	Phe	Cys	Leu	Ser	Ser	Ala	Lys
			645						650					655	
Ala	Gly	Ile	Ala	Ile	Phe	Arg	Arg	Tyr	Leu	Asn	His	Thr	Leu	Pro	Ile
			660					665						670	
Gly	Pro	Glu	His	Pro	Val	Pro	Glu	Asp	Gly	Phe	Val	Ile	Val		
		675					680						685		

<210> 493

<211> 420

<212> PRT

<213> Chlamydia pneumoniae

<400> 493

Ile	Leu	Ser	Ser	Leu	Tyr	Thr	Val	Phe	Thr	Met	Lys	Thr	Ala	Phe	His
1				5					10					15	
Ser	Cys	Tyr	Ser	Trp	Phe	Cys	Trp	Leu	Phe	Ser	Phe	Leu	Val	Leu	Phe
			20					25					30		
Val	Gly	Gly	Ile	Ala	Gly	Gly	Glu	Pro	Leu	Cys	Pro	Asp	Cys	Lys	Tyr
		35					40					45			
Glu	Thr	Lys	Ser	Val	Leu	Arg	Ser	Asp	Gln	Leu	Pro	Asp	His	Leu	Trp
						55					60				
Asn	Tyr	Glu	Asn	Asp	Cys	Tyr	Leu	Thr	Gly	Tyr	Val	Gln	Ser	Leu	Leu
65				70						75					80
Asp	Met	His	Phe	Leu	Asp	Ser	Arg	Thr	Gln	Val	Val	Ile	Glu	Lys	Asn
				85					90					95	
Arg	Ala	Tyr	Leu	Phe	Ser	Leu	Pro	Val	Asp	Ser	Ser	Leu	Ser	Glu	Ala
			100					105					110		
Ile	Thr	Asn	Phe	Val	Arg	Asp	Leu	Pro	Phe	Ile	Cys	Ala	Val	Glu	Ile
		115					120					125			
Cys	Glu	Arg	Pro	Tyr	Gly	Glu	Cys	Ile	Thr	Arg	Ser	Ser	Ala	Glu	Arg
	130					135					140				
Pro	Leu	Leu	Pro	Lys	Glu	Lys	Thr	Leu	Gly	Met	Pro	Ile	Phe	Cys	Gly
145				150						155					160
Lys	Glu	Gly	Val	Trp	Leu	Pro	Gln	Asn	Thr	Ile	Leu	Phe	Ser	Pro	Leu
			165						170					175	
Ile	Ala	Asp	Pro	Arg	Gln	Val	Thr	Asn	Ser	Ala	Gly	Ile	Arg	Phe	Asn
			180					185					190		
Glu	Lys	Val	Val	Gly	Asn	Arg	Val	Gly	Ala	Thr	Ile	Phe	Gly	Gly	Asp
		195					200					205			
Phe	Ile	Leu	Leu	Arg	Leu	Phe	Asp	Val	Ser	Arg	Phe	His	Val	Asp	Cys
	210					215					220				

Asp	Phe	Gly	Ile	Gln	Gly	Gly	Val	Phe	Ser	Val	Phe	Asp	Leu	Asp	His
225					230					235					240
Pro	Glu	Ser	Cys	Met	Val	Asn	Ser	Asp	Phe	Phe	Val	Ala	Gly	Leu	Trp
				245					250						255
Ser	Gly	Ala	Ile	Asp	Lys	Trp	Ser	Phe	Arg	Phe	Arg	Leu	Trp	His	Leu
			260					265						270	
Ser	Ser	His	Leu	Gly	Asp	Glu	Phe	Ile	Leu	Thr	His	Pro	Asn	Phe	Pro
		275					280					285			
Arg	Phe	Asn	Leu	Ser	Asp	Glu	Gly	Val	Asp	Leu	Phe	Ile	Ser	Phe	Arg
	290					295					300				
Tyr	Thr	Pro	Gln	Ile	Arg	Leu	Tyr	Gly	Gly	Cys	Gly	Tyr	Ile	Val	Ser
305					310					315					320
Arg	Asp	Leu	Thr	Phe	Pro	Glu	Arg	Pro	Phe	Tyr	Cys	Glu	Trp	Gly	Ala
				325					330						335
Glu	Leu	Arg	Pro	Phe	Gly	Leu	Arg	Glu	Gly	Asn	Leu	His	Ala	Gln	Pro
			340					345					350		
Ile	Phe	Ala	Met	His	Phe	Arg	Cys	Trp	Glu	Glu	Gln	Lys	Phe	Gly	Leu
		355					360					365			
Asp	Gln	Ser	Tyr	Ile	Leu	Gly	Met	Glu	Trp	Ala	Lys	Phe	Gln	Glu	Ile
	370					375					380				
Gly	Arg	Lys	Ile	Arg	Ala	Val	Leu	Glu	Tyr	His	Gln	Gly	Phe	Ser	Lys
385					390					395					400
Glu	Gly	Gln	Phe	Ile	Arg	Glu	Pro	Cys	Asn	Tyr	Tyr	Gly	Phe	Arg	Leu
				405					410					415	
Thr	Tyr	Gly	Phe												
			420												

<210> 494  
 <211> 54  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 494

Leu	Phe	Ser	Leu	Ile	Phe	Pro	Ile	Cys	Glu	Glu	Arg	Asn	Ser	Gln	Gln
1				5					10					15	
Thr	Tyr	Lys	His	Leu	His	Val	Glu	Ser	Ala	Cys	Phe	Leu	Leu	Glu	Ser
			20					25					30		
Pro	Leu	Lys	Ile	His	Trp	Ser	Ser	Pro	Tyr	Gly	Phe	Pro	Pro	Phe	Tyr
		35					40					45			
Arg	Arg	Asp	Leu	Lys	Leu										
		50													

<210> 495  
 <211> 96  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 495

Ser	Lys	Thr	Glu	Gly	Ser	His	Ser	Lys	Thr	Ser	Lys	Gly	Phe	Val	Gly
1				5					10					15	
Arg	Phe	Val	Gln	Trp	Ile	Arg	Thr	Phe	Thr	Gly	Arg	Gly	Ser	Lys	Lys
			20					25					30		
Arg	Ser	Pro	Ser	Ser	Phe	Ser	Pro	Thr	His	Pro	Tyr	Ile	Arg	Leu	Arg
		35					40					45			
Thr	Tyr	Thr	Arg	Ser	Pro	Lys	Gln	Ser	Gly	Val	Glu	Arg	Lys	Gln	Glu
	50					55					60				
Asp	Ala	Glu	Thr	Ser	Phe	Ile	Glu	Thr	Pro	Lys	Gly	Ile	Leu	Lys	Lys
65					70					75					80
Pro	Gly	Asn	Lys	Asp	Pro	Lys	Gly	Lys	His	Val	His	Trp	Lys	Asp	Ser
				85					90					95	

<210> 496  
 <211> 75  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 496  
 Val Ile Met Ile Arg Val Asn Pro Tyr Gly Ser Tyr Arg Gly Arg Asn  
 1 5 10 15  
 Pro Ser Pro Glu Asp Gly Lys Lys Asp Val Pro Leu Ser Gly Asn Ser  
 20 25 30  
 Arg Leu His Arg Arg Gly Gly Ile Arg Arg Lys His Lys Ser Ala Ser  
 35 40 45  
 Val Gly Val Thr Ser Gly Ser Lys Thr Gly Lys Ala Ser Leu Glu Lys  
 50 55 60  
 Lys Val Lys Gly Ile Ser Glu Ala His Phe Lys  
 65 70 75

<210> 497  
 <211> 429  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 497  
 Arg Arg Leu Lys Lys Asn Gln Lys Met Ala Ile Gln Lys Ala Gly Ala  
 1 5 10 15  
 Phe Leu Arg Cys Leu Pro Ser Glu Ser Arg Pro Tyr Leu Glu His Ala  
 20 25 30  
 Met Arg Arg Asn Pro His Phe Ser Leu Leu Lys Pro Gln Tyr Leu Phe  
 35 40 45  
 Ser Glu Ile Ser Lys Lys Leu Ala Gln Phe Arg Lys Glu Asn Pro Glu  
 50 55 60  
 Ile Ser Val Ile Asp Leu Ser Ile Gly Asp Thr Thr Gln Pro Leu Cys  
 65 70 75 80  
 Arg Ser Ile Thr Gln Ala Ile Lys Glu Phe Cys Val Ser Gln Glu Lys  
 85 90 95  
 Gln Glu Thr Tyr Arg Gly Tyr Gly Pro Glu Thr Gly Leu Glu Lys Leu  
 100 105 110  
 Arg Thr Lys Ile Ala Ser Glu Val Tyr Glu Asn Arg Ile Ser Pro Glu  
 115 120 125  
 Glu Ile Phe Ile Ser Asp Gly Ala Lys Pro Asp Ile Phe Arg Leu Phe  
 130 135 140  
 Ser Phe Phe Gly Ser Glu Lys Thr Leu Gly Leu Gln Asp Pro Val Tyr  
 145 150 155 160  
 Pro Ala Tyr Arg Asp Ile Ala His Ile Thr Gly Ile Arg Asp Ile Ile  
 165 170 175  
 Pro Leu Ala Cys Arg Lys Glu Thr Gly Phe Ile Pro Glu Leu Pro Asn  
 180 185 190  
 Gln Gln Ser Leu Asp Ile Leu Cys Leu Cys Tyr Pro Asn Asn Pro Thr  
 195 200 205  
 Gly Thr Val Leu Thr Phe Gln Gln Leu Gln Ala Leu Val Asn Tyr Ala  
 210 215 220  
 Asn Gln His Gly Thr Val Leu Ile Phe Asp Ala Ala Tyr Ser Ala Phe  
 225 230 235 240  
 Val Ser Asp Pro Ser Leu Pro Lys Ser Ile Phe Glu Ile Pro Glu Ala  
 245 250 255  
 Lys Tyr Cys Ala Ile Glu Ile Asn Ser Phe Ser Lys Ser Leu Gly Phe  
 260 265 270  
 Thr Gly Met Arg Leu Ala Trp Asn Val Ile Pro Lys Glu Leu Thr Tyr  
 275 280 285  
 Asp Asn Asn Glu Pro Met Ile Asn Asp Trp Lys Arg Leu Phe Ala Thr  
 290 295 300



Thr	Phe	Asn	Gly	Ala	Ser	Leu	Leu	Met	Gln	Glu	Ala	Gly	Tyr	Tyr	Gly
305					310					315					320
Leu	Asp	Leu	Phe	Pro	Thr	Pro	Pro	Ala	Ile	Ser	Leu	Tyr	Leu	Thr	Asn
				325					330						335
Ala	Gln	Lys	Leu	Lys	Lys	Ser	Leu	Glu	Thr	Ala	Gly	Phe	Ser	Val	His
			340					345					350		
Gly	Gly	Asp	His	Ala	Pro	Tyr	Leu	Trp	Val	Glu	Leu	Pro	Glu	Gly	Ile
		355					360					365			
Ser	Asp	Glu	Glu	Ala	Phe	Asp	Phe	Phe	Leu	His	Gln	Tyr	His	Ile	Ala
	370					375					380				
Val	Thr	Pro	Gly	His	Gly	Phe	Gly	Ser	Cys	Gly	Gln	Gly	Phe	Val	Arg
385					390					395					400
Phe	Ser	Ala	Leu	Thr	Gln	Pro	Gln	Asn	Ile	Ala	Leu	Ala	Cys	Asp	Arg
				405				410						415	
Leu	Cys	Thr	Ala	Ser	Leu	Lys	Glu	Thr	Met	Val	Leu	Ala			
			420					425							

<210> 498

<211> 354

<212> PRT

<213> Chlamydia pneumoniae

<400> 498

Pro	Pro	Leu	Tyr	Arg	Phe	Thr	Lys	Arg	Asn	Asp	Gly	Ser	Cys	Met	Thr
1				5					10					15	
Ile	Leu	Arg	Lys	Leu	Ser	Gln	Tyr	Leu	Phe	Phe	Phe	Ser	Leu	Phe	Cys
			20					25					30		
Ser	Phe	Ile	Tyr	Val	Ala	Thr	Cys	Gly	Ser	Gln	Pro	Asp	Ser	Val	Ser
		35					40					45			
Ser	Pro	Lys	Ile	Ala	Ile	Phe	Leu	Ser	Phe	Pro	His	Pro	Leu	Leu	Glu
	50					55					60				
Asp	Cys	Ser	Lys	Ser	Cys	Ile	Glu	Thr	Leu	Lys	Asp	Phe	Glu	Asn	Leu
65					70					75					80
Pro	Glu	Ile	Val	Val	Leu	Asn	Ala	Glu	Asp	Ser	Ile	Val	Lys	Ala	Arg
				85					90					95	
Lys	Ile	Ala	Arg	Ser	Leu	His	Thr	Asp	Lys	Asn	Val	Val	Ala	Ile	Val
			100					105					110		
Thr	Leu	Gly	Thr	Ile	Ala	Thr	Lys	Val	Met	Ser	His	Ile	Glu	Thr	Gln
		115					120					125			
Lys	Pro	Val	Ile	Tyr	Ala	Ala	Val	Pro	Asp	Arg	Glu	Ser	Leu	Thr	Leu
	130					135					140				
Pro	Lys	Asn	Thr	Met	Asn	Ile	Tyr	Gly	Val	Asn	Asp	Thr	Leu	Asp	Ile
145					150					155					160
Asn	Gln	Tyr	Cys	Phe	Ala	Ile	Gln	Ala	Val	Ala	Thr	Asn	Ala	Gln	Ser
				165				170						175	
Ile	Val	Tyr	Leu	Lys	Pro	Ser	Glu	Pro	Phe	Pro	Ser	Asp	Leu	Gln	Lys
			180					185					190		
Glu	Ile	Val	Lys	Lys	Leu	His	Ala	Ser	Gly	Ile	Glu	Val	Ile	Glu	Ile
		195					200					205			
Ser	Ile	Thr	Ser	Ser	Thr	Phe	Lys	Thr	Arg	Ile	Arg	Gln	Ala	Ile	Asp
	210					215					220				
Lys	Arg	Pro	Ser	Ala	Ile	Phe	Ile	Pro	Leu	Ser	Pro	Leu	Ser	His	Lys
225					230					235					240
Glu	Gly	Thr	Ala	Phe	Leu	Gln	Glu	Ile	Leu	Lys	Glu	Lys	Ile	Pro	Ile
			245						250					255	
Ile	Thr	Asp	Asp	Thr	Ser	Leu	Ile	Ser	Glu	Gly	Ala	Cys	Ile	Ala	Cys
		260						265					270		
Ser	Val	Asp	Tyr	Lys	Lys	Ser	Gly	Lys	Gln	Ile	Ala	Lys	Ile	Val	His
		275					280						285		
His	Leu	Leu	Tyr	Asn	Asn	His	Asp	Val	Asp	Ser	Leu	Arg	Lys	Ile	Ile
	290					295						300			

Ala	Gln	Arg	Leu	Ser	Pro	Thr	Thr	Thr	Phe	Asn	Glu	Asp	Ile	Ile	Lys
305					310					315					320
Tyr	Leu	Gly	Ile	Lys	Leu	His	Lys	Thr	Glu	Arg	Asn	Gln	Phe	Leu	Ser
				325					330						335
Phe	Lys	Ser	Lys	Lys	Leu	Glu	Lys	Ser	Glu	Lys	Gly	Lys	Asn	Val	Ala
			340					345					350		
Val	Ser														

<210> 499  
 <211> 96  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 499

Ile	Phe	Gln	Arg	Val	Val	Leu	Asp	Asp	Ser	Trp	Ile	Leu	Glu	Val	Lys
1				5					10					15	
Val	Thr	Pro	Lys	Ala	Lys	Glu	Asn	Lys	Ile	Val	Gly	Phe	Asp	Gly	Gln
			20					25					30		
Ala	Leu	Lys	Val	Arg	Val	Thr	Glu	Pro	Pro	Glu	Lys	Gly	Lys	Ala	Asn
		35					40					45			
Asp	Ala	Val	Ile	Ser	Leu	Leu	Ala	Lys	Ala	Leu	Ser	Leu	Pro	Lys	Arg
	50				55						60				
Asp	Val	Thr	Leu	Ile	Ala	Gly	Glu	Thr	Ser	Arg	Lys	Lys	Lys	Phe	Leu
65				70						75					80
Leu	Pro	Asn	Arg	Val	Gln	Asp	Ile	Ile	Phe	Ser	Leu	His	Ile	Asp	Val
				85					90					95	

<210> 500  
 <211> 326  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 500

Tyr	Cys	Arg	Leu	Arg	Arg	Ala	Pro	Phe	Met	Asn	Arg	Arg	Lys	Ala	Arg
1				5					10					15	
Trp	Val	Val	Ala	Leu	Phe	Ala	Met	Thr	Ala	Leu	Ile	Ser	Val	Gly	Cys
			20					25					30		
Cys	Pro	Trp	Ser	Gln	Ala	Lys	Ser	Arg	Cys	Ser	Ile	Asp	Lys	Tyr	Ile
		35					40					45			
Pro	Val	Val	Asn	Arg	Leu	Leu	Glu	Val	Cys	Gly	Leu	Pro	Glu	Ala	Glu
	50				55						60				
Asn	Val	Glu	Asp	Leu	Ile	Glu	Ser	Ser	Ser	Ala	Trp	Val	Leu	Thr	Pro
65				70					75						80
Glu	Glu	Arg	Phe	Ser	Gly	Glu	Leu	Val	Ser	Ile	Cys	Gln	Val	Lys	Asp
			85					90					95		
Glu	His	Ala	Phe	Tyr	Asn	Asp	Leu	Ser	Leu	Leu	His	Met	Thr	Gln	Ala
		100						105					110		
Val	Pro	Ser	Tyr	Ser	Ala	Thr	Tyr	Asp	Cys	Ala	Val	Val	Phe	Gly	Gly
		115					120					125			
Pro	Leu	Pro	Ala	Leu	Arg	Gln	Arg	Leu	Asp	Phe	Leu	Val	Arg	Glu	Trp
	130					135					140				
Gln	Arg	Gly	Val	Arg	Phe	Lys	Lys	Ile	Val	Phe	Leu	Cys	Gly	Glu	Arg
145				150					155					160	
Gly	Arg	Tyr	Gln	Ser	Ile	Glu	Glu	Gln	Glu	His	Phe	Phe	Asp	Ser	Arg
			165					170					175		
Tyr	Asn	Pro	Phe	Pro	Thr	Glu	Glu	Asn	Trp	Glu	Ser	Gly	Asn	Arg	Val
		180						185					190		
Thr	Pro	Ser	Ser	Glu	Glu	Glu	Ile	Ala	Lys	Phe	Val	Trp	Met	Gln	Met
		195					200					205			

Leu	Leu	Pro	Arg	Ala	Trp	Arg	Asp	Ser	Thr	Ser	Gly	Val	Arg	Val	Thr
210					215						220				
Phe	Leu	Leu	Ala	Lys	Pro	Glu	Glu	Asn	Arg	Val	Val	Ala	Asn	Arg	Lys
225					230					235					240
Asp	Thr	Leu	Leu	Leu	Phe	Arg	Ser	Tyr	Gln	Glu	Ala	Phe	Pro	Gly	Arg
				245					250					255	
Val	Leu	Phe	Val	Ser	Ser	Gln	Pro	Phe	Ile	Gly	Leu	Asp	Ala	Cys	Arg
			260					265					270		
Val	Gly	Gln	Phe	Phe	Lys	Gly	Glu	Ser	Tyr	Asp	Leu	Ala	Gly	Pro	Gly
		275					280					285			
Phe	Ala	Gln	Gly	Val	Leu	Lys	Tyr	His	Trp	Ala	Pro	Arg	Ile	Cys	Leu
	290					295					300				
His	Thr	Leu	Ala	Glu	Trp	Leu	Lys	Glu	Thr	Asn	Gly	Cys	Leu	Asn	Ile
305					310					315					320
Ser	Glu	Gly	Cys	Phe	Gly										
				325											

<210> 501

<211> 400

<212> PRT

<213> Chlamydia pneumoniae

<400> 501

Leu	Ser	Val	Tyr	Leu	Leu	Ile	Phe	Tyr	Phe	Cys	Asn	Cys	Ser	Thr	Met
1				5					10					15	
Ser	Ser	Val	Asn	Gln	Ser	Ser	Gly	Thr	Pro	Asn	Pro	Glu	Glu	Val	Thr
			20					25					30		
Ser	Pro	Glu	Ser	Thr	Glu	Glu	Asn	Lys	Asn	Val	Val	Ser	Ser	Asp	Glu
		35					40					45			
Ala	Gln	Ala	Thr	His	Ala	Val	Ala	Leu	Pro	Ile	Val	Thr	Gln	Leu	Ser
	50				55						60				
Leu	Pro	Glu	Gly	Val	Gly	Thr	Ser	Ser	Glu	Glu	Thr	Ala	Ser	Asn	Pro
65				70					75					80	
Arg	Val	Asp	Glu	Ile	Val	Ala	Glu	Val	Ser	Ser	Ser	Arg	Ala	Val	Ala
			85					90					95		
Asp	Gln	Ile	Ser	Ser	Leu	Val	Glu	Arg	Val	Gly	Glu	Leu	Leu	Asp	Asp
			100				105					110			
Leu	Lys	Gly	Ala	Gln	Ser	Leu	Phe	Thr	Ser	Phe	Gln	Ser	Glu	Leu	Lys
		115				120					125				
Asn	Cys	Leu	Pro	Ala	Trp	Lys	Ser	Ser	Thr	Arg	Arg	Leu	Glu	Thr	Arg
	130				135						140				
Gly	Ala	Gly	Asp	Asn	Ala	Asp	Ile	Ala	Arg	Leu	Glu	Leu	Phe	Arg	Ser
145				150					155					160	
Asp	Tyr	Glu	Ala	Val	Leu	Gly	His	Ala	Asn	Gln	Phe	His	Gly	Lys	Ala
			165					170					175		
His	Leu	Ile	Leu	Ser	Lys	Leu	Thr	Asp	Val	His	His	Lys	Leu	Gln	Gly
		180					185					190			
Leu	Ser	Arg	Glu	Asp	Leu	Ser	Leu	Ala	Phe	Asp	Asn	Asn	Asp	Arg	Val
		195					200					205			
Leu	Glu	His	Leu	Gly	Ser	Leu	Gly	Leu	Asp	Val	Asp	Ala	Glu	Gly	Asn
	210					215					220				
Trp	Ser	Leu	Ser	Cys	Glu	Arg	Gly	Ile	Pro	Arg	Leu	Val	Leu	Thr	Ala
225				230						235				240	
Asp	Ser	Met	Leu	Val	Gln	Ile	Lys	Lys	Val	Asn	Leu	Pro	Thr	Val	Glu
			245						250					255	
Glu	Leu	Arg	Thr	Leu	Gln	Gly	Thr	Thr	Glu	Ser	Ser	Ser	Asp	Pro	Arg
			260					265					270		
Val	Glu	Glu	Ser	Leu	Ser	Cys	Cys	Glu	Arg	Leu	Leu	Asn	Glu	Leu	Arg
	275						280					285			
Arg	Leu	Trp	Ala	Asn	Phe	Val	Gly	Phe	Ile	Ser	Ser	Cys	Tyr	Asp	Asn
	290					295					300				

Ile	Val	Phe	Val	Leu	Met	Trp	Ile	Val	Arg	Arg	Ile	Asn	Leu	Leu	Pro
305					310					315					320
Gly	Leu	Gly	Cys	Leu	Pro	Phe	His	Asn	Pro	Asp	Ala	Ser	Gln	Glu	Asp
				325					330					335	
Gln	Arg	Ser	Ser	Ser	Gly	Glu	Arg	Ser	Thr	Arg	Arg	Glu	Arg	Leu	Ser
			340					345					350		
Arg	Arg	Ser	Asp	Leu	Ser	Glu	Glu	Glu	Met	Ile	Val	Arg	Ala	Glu	Gly
		355				360						365			
Glu	Ser	Ile	His	Pro	Glu	Ser	Pro	His	Gly	Asp	Gly	Arg	Asn	Gln	Pro
	370					375					380				
Ser	Arg	Gly	Asp	Lys	Gln	Asp	Ser	Asp	Ser	Glu	Glu	Glu	Thr	Glu	Leu
385					390					395					400

<210> 502

<211> 572

<212> PRT

<213> Chlamydia pneumoniae

<400> 502

Gln	Pro	His	Ser	Met	Lys	Thr	Ser	Gln	Leu	Phe	Tyr	Lys	Thr	Ser	Lys
1				5					10					15	
Asn	Ala	Asn	Lys	Ser	Ala	Ala	Val	Leu	Ser	Asn	Glu	Leu	Leu	Glu	Lys
			20					25					30		
Ala	Gly	Tyr	Leu	Phe	Lys	Val	Ser	Lys	Gly	Val	Tyr	Thr	Tyr	Thr	Pro
		35					40					45			
Leu	Leu	Trp	Arg	Val	Val	Ser	Lys	Met	Met	Asn	Ile	Arg	Glu	Glu	
	50					55					60				
Leu	Asn	Ala	Ile	Gly	Gly	Gln	Glu	Leu	Leu	Leu	Pro	Leu	Leu	His	Asn
65					70					75				80	
Ala	Glu	Leu	Trp	Gln	His	Thr	Gly	Arg	Trp	Glu	Ala	Phe	Thr	Ser	Glu
				85				90						95	
Gly	Leu	Leu	Tyr	Thr	Leu	Lys	Asp	Arg	Glu	Gly	Lys	Ser	His	Cys	Leu
			100					105					110		
Ala	Pro	Thr	His	Glu	Glu	Val	Ile	Cys	Ser	Phe	Val	Ala	Gln	Trp	Leu
		115					120					125			
Ser	Ser	Lys	Arg	Gln	Leu	Pro	Leu	His	Leu	Tyr	Gln	Ile	Ala	Thr	Lys
	130					135					140				
Phe	Arg	Asp	Glu	Ile	Arg	Pro	Arg	Phe	Gly	Leu	Ile	Arg	Ser	Arg	Glu
145					150					155					160
Leu	Leu	Met	Glu	Asp	Ser	Tyr	Thr	Phe	Ser	Asp	Ser	Pro	Glu	Gln	Met
				165					170					175	
Asn	Glu	Gln	Tyr	Glu	Lys	Leu	Arg	Ser	Ala	Tyr	Ser	Lys	Ile	Phe	Asp
			180					185					190		
Arg	Leu	Gly	Leu	Ala	Tyr	Val	Ile	Val	Thr	Ala	Asp	Gly	Gly	Lys	Ile
	195						200					205			
Gly	Lys	Gly	Lys	Ser	Glu	Glu	Phe	Gln	Val	Leu	Cys	Ser	Leu	Gly	Glu
	210					215					220				
Asp	Thr	Ile	Cys	Val	Ser	Gly	Ser	Tyr	Gly	Ala	Asn	Ile	Glu	Ala	Ala
225					230					235					240
Val	Ser	Ile	Pro	Pro	Gln	His	Ala	Tyr	Asp	Arg	Glu	Phe	Leu	Pro	Val
				245					250					255	
Glu	Glu	Val	Ala	Thr	Pro	Gly	Ile	Thr	Thr	Ile	Glu	Ala	Leu	Ala	Asn
			260					265					270		
Phe	Phe	Ser	Ile	Pro	Leu	His	Lys	Ile	Leu	Lys	Thr	Leu	Val	Val	Lys
		275					280					285			
Leu	Ser	Tyr	Ser	Asn	Glu	Glu	Lys	Phe	Ile	Ala	Ile	Gly	Met	Arg	Gly
	290					295				300					
Asp	Arg	Gln	Val	Asn	Leu	Val	Lys	Val	Ala	Ser	Lys	Leu	Asn	Ala	Asp
305					310					315					320
Asp	Ile	Ala	Leu	Ala	Ser	Asp	Glu	Glu	Ile	Glu	Arg	Val	Leu	Gly	Thr
				325					330					335	

Glu	Lys	Gly	Phe	Ile	Gly	Pro	Leu	Asn	Cys	Pro	Ile	Asp	Phe	Phe	Ala			
			340					345					350					
Asp	Glu	Thr	Thr	Ser	Pro	Met	Thr	Asn	Phe	Val	Cys	Ala	Gly	Asn	Ala			
		355					360					365						
Lys	Asp	Lys	His	Tyr	Val	Asn	Val	Asn	Trp	Asp	Arg	Asp	Leu	Leu	Pro			
	370					375					380							
Pro	Gln	Tyr	Gly	Asp	Phe	Leu	Leu	Ala	Glu	Glu	Gly	Asp	Thr	Cys	Pro			
385					390					395					400			
Glu	Asn	Pro	Gly	His	Pro	Tyr	Arg	Ile	Tyr	Gln	Gly	Ile	Glu	Val	Ala			
				405					410						415			
His	Ile	Phe	Asn	Leu	Gly	Thr	Arg	Tyr	Thr	Asp	Ser	Phe	Glu	Val	Asn			
			420					425					430					
Phe	Gln	Asp	Glu	His	Gly	Gln	Thr	Gln	Gln	Cys	Trp	Met	Gly	Thr	Tyr			
		435				440						445						
Gly	Ile	Gly	Val	Gly	Arg	Thr	Leu	Ala	Ala	Cys	Val	Glu	Gln	Leu	Ala			
	450					455					460							
Asp	Asp	Arg	Gly	Ile	Val	Trp	Pro	Lys	Ala	Leu	Ala	Pro	Phe	Ser	Ile			
465					470					475					480			
Thr	Ile	Ala	Phe	Asn	Gly	Gly	Asp	Thr	Val	Ser	Gln	Glu	Leu	Ala	Glu			
				485					490						495			
Thr	Ile	Tyr	His	Glu	Leu	Gln	Ser	Gln	Gly	Tyr	Glu	Pro	Leu	Leu	Asp			
			500					505					510					
Asp	Arg	Asp	Glu	Arg	Leu	Gly	Phe	Lys	Leu	Lys	Asp	Ser	Asp	Leu	Ile			
		515					520					525						
Gly	Ile	Pro	Tyr	Lys	Leu	Ile	Leu	Gly	Lys	Ser	Tyr	Gln	Ser	Ser	Gly			
	530					535					540							
Ile	Phe	Glu	Ile	Glu	Ser	Arg	Ser	Gly	Glu	Lys	Tyr	Thr	Val	Ser	Pro			
545					550					555					560			
Glu	Ala	Phe	Pro	Thr	Trp	Cys	Gln	Asn	His	Leu	Ala							
				565					570									

<210> 503  
 <211> 409  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 503

Ile	Leu	Leu	Thr	Phe	Ser	Gly	Ser	Phe	Pro	Ile	Met	Leu	Ser	Val	Thr			
1				5					10					15				
Ile	Val	Leu	Val	Gly	Leu	Glu	Met	Ala	Arg	Ser	Lys	Val	Ser	Lys	Arg			
		20						25				30						
Asp	Ser	Lys	Ile	Leu	Asp	Ile	Leu	Phe	Ala	Thr	Thr	Glu	Leu	Tyr	Leu			
		35					40					45						
Lys	Thr	Gly	Gln	Pro	Val	Gly	Ser	Lys	Thr	Leu	Lys	Glu	Ser	Phe	Cys			
	50					55					60							
Ser	Asp	Leu	Ser	Thr	Ala	Thr	Ile	Arg	Asn	Tyr	Phe	Ala	Glu	Leu	Glu			
65					70					75					80			
Ala	Glu	Gly	Phe	Leu	Lys	Lys	Asn	His	Thr	Ser	Gly	Gly	Arg	Ile	Pro			
			85						90					95				
Thr	Asp	Leu	Ala	Leu	Arg	His	Tyr	Val	Asp	His	Gln	Glu	Glu	Cys	Pro			
			100					105						110				
Glu	Ala	Glu	Ile	Ser	Ala	Pro	Ile	Phe	Asp	Lys	Ile	Ser	Gln	Leu	Pro			
		115					120					125						
Ser	Glu	Ser	Arg	Asn	Ile	Ile	Lys	Asp	Leu	Gln	Lys	Ala	Thr	Glu	Leu			
	130					135					140							
Leu	Gly	Glu	Ile	Leu	Asp	Leu	Pro	Thr	Phe	Phe	Ser	Ser	Pro	Arg	Phe			
145					150					155					160			
Glu	Asn	Asp	Ser	Val	Thr	Asn	Ile	Gln	Ile	Thr	Gln	Val	Asp	Lys	Gln			
				165					170						175			
Arg	Ala	Val	Thr	Ile	Leu	Ser	Thr	Glu	Phe	Gly	Gln	Ile	Phe	Thr	Asp			
			180					185							190			

Thr	Leu	Trp	Leu	Pro	Glu	Ala	Cys	Asp	Thr	Leu	Ser	Ile	Lys	Arg	Ile		
	195						200					205					
Glu	Lys	Phe	Leu	Gln	Asn	Tyr	Ile	Arg	Lys	Leu	Pro	Thr	Asn	Glu	Glu		
	210					215					220						
Leu	Ser	Lys	Lys	Glu	Glu	His	Leu	Ser	Met	Ser	Leu	Tyr	Asn	Glu	Val		
225					230					235					240		
Val	Val	Arg	Tyr	Leu	Thr	Arg	Tyr	Cys	Asn	Phe	Ser	Glu	Glu	Asp	Leu		
				245					250					255			
Tyr	Gln	Thr	Gly	Met	Ser	Lys	Leu	Leu	Lys	Tyr	Glu	Ala	Phe	Lys	Asp		
			260					265					270				
Pro	Glu	Val	Leu	Ala	Leu	Gly	Leu	Ser	Leu	Phe	Glu	Asn	Arg	Arg	Gln		
		275					280					285					
Met	Cys	Glu	Leu	Leu	Asn	Ile	Gly	Met	His	Lys	Gly	Arg	Ala	Thr	Ala		
	290					295					300						
Phe	Ile	Gly	Lys	Glu	Leu	Ser	Asp	Ile	Leu	Gly	Thr	Ser	Asn	Pro	Gly		
305					310					315					320		
Cys	Ser	Val	Ile	Thr	Ile	Pro	Tyr	Tyr	Met	Asn	Arg	Ser	Pro	Leu	Gly		
				325					330					335			
Ala	Leu	Gly	Ile	Leu	Gly	Pro	Ile	Asn	Leu	Pro	Tyr	Lys	Glu	Ala	Leu		
			340					345					350				
Pro	Leu	Leu	Lys	Leu	Phe	Ala	Asn	Lys	Ile	Asn	Glu	Thr	Leu	Thr	Gln		
		355					360					365					
Ser	Phe	Tyr	Lys	Phe	Lys	Leu	Ser	Phe	Arg	Arg	Pro	Leu	Thr	Ser	Asn		
	370					375					380						
Cys	Lys	Leu	Ser	Asn	Glu	Pro	Ile	Leu	Arg	Thr	Glu	Tyr	Ser	Ser	Ile		
385					390					395					400		
Lys	Leu	Leu	Pro	Ser	Lys	Glu	Thr	Leu									
				405													

<210> 504  
 <211> 187  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 504

Gly	Asp	Val	Met	Thr	Asp	Thr	Pro	Pro	Glu	Asn	Glu	Glu	Gln	His	Glu		
1				5					10					15			
Ser	Asn	Val	Gln	Asn	Glu	Asn	Glu	Val	Glu	His	Leu	Gln	Gln	Glu	Ile		
		20						25					30				
Val	Thr	Leu	Lys	Thr	Glu	Leu	Lys	Glu	Lys	Asn	Asp	Lys	Tyr	Leu	Met		
		35					40					45					
Ala	Leu	Ala	Glu	Ser	Glu	Asn	Ser	Arg	Lys	Arg	Leu	Gln	Lys	Glu	Arg		
		50				55					60						
Gln	Glu	Leu	Met	Gln	Tyr	Ala	Leu	Glu	Asn	Thr	Leu	Ile	Asp	Phe	Leu		
65					70					75					80		
Asn	Pro	Ile	Glu	Ser	Met	Glu	Lys	Ala	Leu	Gly	Phe	Ala	Thr	Gln	Met		
				85					90					95			
Ser	Asp	Asp	Val	Lys	Asn	Trp	Ala	Leu	Gly	Phe	Asn	Met	Ile	Leu	Asn		
		100					105						110				
Gln	Phe	Lys	Gln	Ile	Phe	Glu	Glu	Lys	Gly	Ile	Ile	Glu	Tyr	Ser	Ser		
		115					120					125					
Ile	Gly	Gln	Lys	Phe	Asn	Pro	Phe	Leu	His	Glu	Ala	Val	Gln	Thr	Glu		
	130					135					140						
Glu	Thr	Ser	Glu	Val	Pro	Glu	Gly	Thr	Ile	Leu	Glu	Glu	Phe	Ala	Lys		
145					150					155					160		
Gly	Tyr	Lys	Ile	Gly	Glu	Arg	Pro	Ile	Arg	Val	Ala	Lys	Val	Lys	Val		
			165						170					175			
Ala	Lys	Ala	Pro	Thr	Pro	Lys	Glu	Asn	Lys	Glu							
			180					185									

<210> 505  
 <211> 663  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 505  
 Val Pro Asn Met Ser Glu His Lys Lys Ser Ser Lys Ile Ile Gly Ile  
 1 5 10 15  
 Asp Leu Gly Thr Thr Asn Ser Cys Val Ser Val Met Glu Gly Gly Gln  
 20 25 30  
 Ala Lys Val Ile Thr Ser Ser Glu Gly Thr Arg Thr Thr Pro Ser Ile  
 35 40 45  
 Val Ala Phe Lys Gly Asn Glu Lys Leu Val Gly Ile Pro Ala Lys Arg  
 50 55 60  
 Gln Ala Val Thr Asn Pro Glu Lys Thr Leu Gly Ser Thr Lys Arg Phe  
 65 70 75 80  
 Ile Gly Arg Lys Tyr Ser Glu Val Ala Ser Glu Ile Gln Thr Val Pro  
 85 90 95  
 Tyr Thr Val Thr Ser Gly Ser Lys Gly Asp Ala Val Phe Glu Val Asp  
 100 105 110  
 Gly Lys Gln Tyr Thr Pro Glu Glu Ile Gly Ala Gln Ile Leu Met Lys  
 115 120 125  
 Met Lys Glu Thr Ala Glu Ala Tyr Leu Gly Glu Thr Val Thr Glu Ala  
 130 135 140  
 Val Ile Thr Val Pro Ala Tyr Phe Asn Asp Ser Gln Arg Ala Ser Thr  
 145 150 155 160  
 Lys Asp Ala Gly Arg Ile Ala Gly Leu Asp Val Lys Arg Ile Ile Pro  
 165 170 175  
 Glu Pro Thr Ala Ala Ala Leu Ala Tyr Gly Ile Asp Lys Val Gly Asp  
 180 185 190  
 Lys Lys Ile Ala Val Phe Asp Leu Gly Gly Gly Thr Phe Asp Ile Ser  
 195 200 205  
 Ile Leu Glu Ile Gly Asp Gly Val Phe Glu Val Leu Ser Thr Asn Gly  
 210 215 220  
 Asp Thr Leu Leu Gly Gly Asp Asp Phe Asp Glu Val Ile Ile Lys Trp  
 225 230 235 240  
 Met Ile Glu Glu Phe Lys Lys Gln Glu Gly Ile Asp Leu Ser Lys Asp  
 245 250 255  
 Asn Met Ala Leu Gln Arg Leu Lys Asp Ala Ala Glu Lys Ala Lys Ile  
 260 265 270  
 Glu Leu Ser Gly Val Ser Ser Thr Glu Ile Asn Gln Pro Phe Ile Thr  
 275 280 285  
 Met Asp Ala Gln Gly Pro Lys His Leu Ala Leu Thr Leu Thr Arg Ala  
 290 295 300  
 Gln Phe Glu Lys Leu Ala Ala Ser Leu Ile Glu Arg Thr Lys Ser Pro  
 305 310 315 320  
 Cys Ile Lys Ala Leu Ser Asp Ala Lys Leu Ser Ala Lys Asp Ile Asp  
 325 330 335  
 Asp Val Leu Leu Val Gly Gly Met Ser Arg Met Pro Ala Val Gln Glu  
 340 345 350  
 Thr Val Lys Glu Leu Phe Gly Lys Glu Pro Asn Lys Gly Val Asn Pro  
 355 360 365  
 Asp Glu Val Val Ala Ile Gly Ala Ala Ile Gln Gly Gly Val Leu Gly  
 370 375 380  
 Gly Glu Val Lys Asp Val Leu Leu Leu Asp Val Ile Pro Leu Ser Leu  
 385 390 395 400  
 Gly Ile Glu Thr Leu Gly Gly Val Met Thr Thr Leu Val Glu Arg Asn  
 405 410 415  
 Thr Thr Ile Pro Thr Gln Lys Lys Gln Ile Phe Ser Thr Ala Ala Asp  
 420 425 430

Asn	Gln	Pro	Ala	Val	Thr	Ile	Val	Val	Leu	Gln	Gly	Glu	Arg	Pro	Met
		435					440					445			
Ala	Lys	Asp	Asn	Lys	Glu	Ile	Gly	Arg	Phe	Asp	Leu	Thr	Asp	Ile	Pro
	450					455					460				
Pro	Ala	Pro	Arg	Gly	His	Pro	Gln	Ile	Glu	Val	Ser	Phe	Asp	Ile	Asp
465					470					475					480
Ala	Asn	Gly	Ile	Phe	His	Val	Ser	Ala	Lys	Asp	Val	Ala	Ser	Gly	Lys
				485					490						495
Glu	Gln	Lys	Ile	Arg	Ile	Glu	Ala	Ser	Ser	Gly	Leu	Gln	Glu	Asp	Glu
			500					505					510		
Ile	Gln	Arg	Met	Val	Arg	Asp	Ala	Glu	Ile	Asn	Lys	Glu	Glu	Asp	Lys
		515					520						525		
Lys	Arg	Arg	Glu	Ala	Ser	Asp	Ala	Lys	Asn	Glu	Ala	Asp	Ser	Met	Ile
	530					535					540				
Phe	Arg	Ala	Glu	Lys	Ala	Ile	Lys	Asp	Tyr	Lys	Glu	Gln	Ile	Pro	Glu
545					550					555					560
Thr	Leu	Val	Lys	Glu	Ile	Glu	Glu	Arg	Ile	Glu	Asn	Val	Arg	Asn	Ala
				565					570						575
Leu	Lys	Asp	Asp	Ala	Pro	Ile	Glu	Lys	Ile	Lys	Glu	Val	Thr	Glu	Asp
			580					585						590	
Leu	Ser	Lys	His	Met	Gln	Lys	Ile	Gly	Glu	Ser	Met	Gln	Ser	Gln	Ser
		595					600								
Ala	Ser	Ala	Ala	Ala	Ser	Ser	Ala	Ala	Asn	Ala	Lys	Gly	Gly	Pro	Asn
	610					615						620			
Ile	Asn	Thr	Glu	Asp	Leu	Lys	Lys	His	Ser	Phe	Ser	Thr	Lys	Pro	Pro
625					630					635					640
Ser	Asn	Asn	Gly	Ser	Ser	Glu	Asp	His	Ile	Glu	Glu	Ala	Asp	Val	Glu
				645					650						655
Ile	Ile	Asp	Asn	Asp	Asp	Lys									
			660												

<210> 506  
 <211> 699  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 506

Ala	Thr	Gln	Phe	Thr	Ser	Glu	Thr	Thr	Gly	Phe	Leu	Val	Gln	Cys	Pro
1				5					10					15	
Lys	Leu	Thr	Gly	Gly	Ala	Gln	Leu	Leu	Lys	Lys	Pro	Lys	Arg	Lys	Pro
			20					25					30		
Gly	Arg	Arg	Thr	Tyr	Gly	Lys	Ser	Leu	Lys	Ile	Phe	Ile	Pro	Gly	Thr
		35					40					45			
Leu	Phe	Val	His	Ala	Arg	Lys	Gly	Phe	Gly	Phe	Val	Ser	Pro	Asp	Asn
	50					55					60				
Pro	Glu	Glu	Tyr	Pro	Phe	Asp	Ile	Phe	Val	Pro	Ala	Arg	Asp	Leu	Arg
65					70					75					80
Gly	Ala	Leu	Asp	Gly	Asp	His	Val	Ile	Val	Ser	Val	Leu	Pro	Tyr	Pro
				85					90					95	
Arg	Asp	Gly	Gln	Lys	Leu	Lys	Gly	Thr	Ile	Ser	Glu	Val	Leu	Ala	Arg
			100					105					110		
Gly	Lys	Thr	Thr	Leu	Val	Gly	Thr	Ile	Thr	Ser	Leu	Val	Ser	Pro	Thr
		115					120					125			
Ser	Ala	Leu	Ala	Tyr	Thr	Ser	Met	Ser	Gly	Ser	Gln	Ser	Leu	Ile	Pro
	130					135					140				
Val	Glu	Leu	Leu	Pro	Gly	Arg	Thr	Tyr	Lys	Ile	Gly	Asp	Arg	Ile	Leu
145					150					155					160
Leu	Ser	Thr	Pro	Pro	Trp	Val	Asp	Lys	Pro	Gln	Glu	Gly	Ala	Ser	Pro
				165					170						175
Ala	Leu	Gln	Met	Leu	Glu	Phe	Ile	Gly	His	Ile	Thr	Asn	Ala	Lys	Ala
			180					185					190		



Asp	Phe	Gln	Ala	Ile	Gln	Ala	Glu	Tyr	Asn	Leu	Ala	Glu	Glu	Phe	Pro	195	200	205
Pro	Glu	Val	Ile	Glu	Glu	Ala	Ser	Leu	Phe	Ser	Gln	Lys	His	Ile	Thr	210	215	220
Gln	Val	Leu	His	Ser	Arg	Lys	Asp	Leu	Arg	Asp	Leu	Leu	Cys	Phe	Thr	225	230	235
Ile	Asp	Ser	Ser	Thr	Ala	Arg	Asp	Phe	Asp	Asp	Ala	Ile	Ser	Leu	Thr	245	250	255
Tyr	Asp	His	Asn	Asn	Tyr	Ile	Leu	Gly	Val	His	Ile	Ala	Asp	Val		260	265	270
Ser	His	Tyr	Val	Thr	Pro	His	Ser	His	Leu	Asp	Lys	Glu	Ala	Ala	Lys	275	280	285
Arg	Cys	Asn	Ser	Thr	Tyr	Phe	Pro	Gly	Lys	Val	Ile	Pro	Met	Leu	Pro	290	295	300
Ser	Ala	Leu	Ser	Asp	Asn	Leu	Cys	Ser	Leu	Lys	Pro	Asn	Val	Asp	Arg	305	310	315
Leu	Ala	Val	Ser	Val	Phe	Met	Thr	Phe	Thr	Lys	Ser	Gly	His	Leu	Ser	325	330	335
Asp	Tyr	Gln	Ile	Phe	Arg	Ser	Val	Ile	Arg	Ser	Lys	Tyr	Arg	Met	Thr	340	345	350
Tyr	Asp	Glu	Val	Asp	Asn	Ile	Ile	Glu	Lys	Lys	His	Ser	His	Pro	Leu	355	360	365
Ser	Lys	Ile	Leu	Asn	Glu	Met	Ala	Thr	Leu	Ser	Lys	Lys	Phe	Ser	Asp	370	375	380
Ile	Arg	Glu	Glu	Arg	Gly	Cys	Ile	Arg	Phe	Val	Leu	Pro	Ser	Val	Thr	385	390	395
Met	Ser	Leu	Asp	Asn	Leu	Gln	Glu	Pro	Val	Ala	Leu	Ile	Glu	Asn	His	405	410	415
Gln	Thr	Phe	Ser	His	Lys	Leu	Ile	Glu	Glu	Phe	Met	Leu	Lys	Ala	Asn	420	425	430
Glu	Val	Val	Ala	Tyr	His	Ile	Ser	His	Gln	Gly	Val	Ser	Leu	Pro	Phe	435	440	445
Arg	Ser	His	Glu	Pro	Pro	Asn	Asp	Glu	Asn	Leu	Leu	Ala	Phe	Gln	Glu	450	455	460
Leu	Ala	Lys	Asn	Met	Gly	Phe	Asp	Ile	Thr	Phe	Thr	Pro	Thr	Gln	Glu	465	470	475
Pro	Asp	Tyr	Gln	Tyr	Leu	Leu	Gln	Thr	Thr	Ser	Ala	Gly	His	Pro	Leu	485	490	495
Glu	Gln	Val	Leu	His	Ser	Gln	Phe	Val	Arg	Ser	Met	Lys	Thr	Ala	Ser	500	505	510
Tyr	Ser	Thr	Glu	Asn	Lys	Gly	His	Tyr	Gly	Leu	Lys	Leu	Asp	Tyr	Tyr	515	520	525
Thr	His	Phe	Thr	Ser	Pro	Ile	Arg	Arg	Tyr	Ile	Asp	Leu	Ile	Val	His	530	535	540
Arg	Leu	Leu	Phe	Asn	Pro	Leu	Ser	Ile	Asp	Gln	Thr	His	Leu	Glu	Ile	545	550	555
Ile	Val	Arg	Ala	Cys	Ser	Thr	Lys	Glu	Arg	Val	Ser	Ala	Lys	Ala	Glu	565	570	575
Asn	Ser	Phe	Glu	Asn	Leu	Lys	Lys	Thr	Arg	Phe	Ile	Asn	Lys	Phe	Leu	580	585	590
Gln	Glu	Gln	Pro	Lys	Thr	Thr	Tyr	His	Ala	Tyr	Ile	Ile	Thr	Ala	Asn	595	600	605
His	Glu	Gly	Leu	Ser	Phe	Val	Val	Thr	Glu	Phe	Cys	His	Glu	Gly	Phe	610	615	620
Ile	Ala	Ala	Ala	Glu	Leu	Pro	Lys	Glu	Tyr	Ser	Leu	Lys	Lys	Asn	Ala	625	630	635
Leu	Pro	Glu	Ser	Ile	Pro	Asp	Lys	Met	Lys	Pro	Gly	Ala	Ser	Ile	Lys	645	650	655
Val	Thr	Ile	Asp	Ser	Val	Asn	Leu	Leu	Thr	Gln	Lys	Ile	Val	Trp	Ser	660	665	670

Ile Ala Thr Thr Thr Glu Asp Lys Pro Lys Lys Ile Lys Lys Thr Pro  
675 680 685  
Ser Lys Lys Lys Gly Thr Lys Lys Arg Ala Ser  
690 695

<210> 507  
<211> 212  
<212> PRT  
<213> Chlamydia pneumoniae

<400> 507  
Arg Lys Arg Leu Leu Arg Lys Lys Glu Arg Lys Lys Glu Pro Arg Asn  
1 5 10 15  
Val Leu Gln Glu His Phe Phe Leu Ser Glu Asp Val Ile Thr Leu Ala  
20 25 30  
Gln Gln Leu Leu Gly His Lys Leu Ile Thr Thr His Glu Gly Leu Ile  
35 40 45  
Thr Ser Gly Tyr Ile Val Glu Thr Glu Ala Tyr Arg Gly Pro Asp Asp  
50 55 60  
Lys Ala Cys His Ala Tyr Asn Tyr Arg Lys Thr Gln Arg Asn Arg Ala  
65 70 75 80  
Met Tyr Leu Lys Gly Gly Ser Ala Tyr Leu Tyr Arg Cys Tyr Gly Met  
85 90 95  
His His Leu Leu Asn Val Val Thr Gly Pro Glu Asp Ile Pro His Ala  
100 105 110  
Val Leu Ile Arg Ala Ile Leu Pro Asp Gln Gly Lys Glu Leu Met Ile  
115 120 125  
Gln Arg Arg Gln Trp Arg Asp Lys Pro Pro His Leu Leu Thr Asn Gly  
130 135 140  
Pro Gly Lys Val Cys Gln Ala Leu Gly Ile Ser Leu Glu Asn Asn Arg  
145 150 155 160  
Gln Arg Leu Asn Thr Pro Ala Leu Tyr Ile Ser Lys Glu Lys Ile Ser  
165 170 175  
Gly Thr Leu Thr Ala Thr Ala Arg Ile Gly Ile Asp Tyr Ala Gln Glu  
180 185 190  
Tyr Arg Asp Val Pro Trp Arg Phe Leu Leu Ser Pro Glu Asp Ser Gly  
195 200 205  
Lys Val Leu Ser  
210

<210> 508  
<211> 262  
<212> PRT  
<213> Chlamydia pneumoniae

<400> 508  
Cys Pro Met Glu Ile Ser Pro Ile Pro Arg Arg Phe Gly Lys Ser Phe  
1 5 10 15  
Ile Leu Asn Asn Leu Lys Leu Tyr Ser Lys Glu Thr Asn Ala His Phe  
20 25 30  
Leu Ile Ser Cys Arg Arg Ile Met Lys Lys Tyr Phe Ile Thr Gly Leu  
35 40 45  
Val Ile Leu Leu Pro Leu Ala Ile Thr Ile Ala Ile Val Thr Met Ile  
50 55 60  
Met Asn Phe Leu Thr Gln Pro Phe Val Gly Leu Ala Ser Glu Phe Phe  
65 70 75 80  
Glu Lys Phe Ser Phe Tyr Thr Lys His Arg Ala Leu Leu Lys Phe Val  
85 90 95  
Leu Gln Ile Ile Leu Leu Phe Gly Leu Phe Phe Ala Thr Val Leu Leu  
100 105 110

Gly Phe Leu Thr Arg Ile Met Ile Phe Lys Ser Leu Leu Ser Ile Tyr  
 115 120 125  
 Asp Lys Ile Leu His Arg Ile Pro Ile Ile Lys Thr Val Tyr Lys Ala  
 130 135 140  
 Ala Gln Gln Val Met Thr Thr Ile Phe Gly Ser Lys Ser Gly Ser Phe  
 145 150 155 160  
 Lys Gln Val Val Met Val Pro Phe Pro Asn Ala Asn Val Gln Cys Ile  
 165 170 175  
 Gly Leu Val Ala Gly Asp Ala Pro Thr Val Cys Cys Thr Gly Glu Lys  
 180 185 190  
 Glu Asp Asp Pro Leu Val Thr Val Phe Ile Pro Thr Thr Pro Asn Pro  
 195 200 205  
 Thr Ser Gly Phe Leu Thr Leu Phe Arg Lys Ser Asp Ile Val Phe Leu  
 210 215 220  
 Asp Met Lys Ile Glu Asp Ala Phe Lys Tyr Ile Ile Ser Cys Gly Val  
 225 230 235 240  
 Leu Ser Thr Pro Met Ala Cys Pro Ser Ser Pro Leu Pro Asp Glu Leu  
 245 250 255  
 His Gln Asp Gln Gly Ser  
 260

<210> 509  
 <211> 75  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 509  
 Ser Thr Pro Tyr Pro Gln Phe Pro Leu Ser Gly Glu Ile Lys Lys Phe  
 1 5 10 15  
 Asn Ile Glu Leu Phe Met Thr Arg Met Ser Lys Gln Ala Arg Arg Arg  
 20 25 30  
 Ala Lys Ser Pro Lys Lys Arg Lys Pro Lys Tyr Ala Ile Val His Pro  
 35 40 45  
 Ala Pro Ala Pro Arg Ile Val Tyr Lys Leu His Thr Asn Ala Leu Ser  
 50 55 60  
 Thr Ser Asp Ser Ile Phe Ile Pro Lys Ile Gly  
 65 70 75

<210> 510  
 <211> 56  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 510  
 Ser Arg Ile Met Ser Arg His Arg Ser Tyr Gly Lys Ser Val Lys Gly  
 1 5 10 15  
 Val Thr Lys Arg Asn Val Leu Lys Arg Phe Glu Arg Val Glu Val Leu  
 20 25 30  
 Arg Lys Leu Gly Arg Trp Asn Asp Ser Thr Ala Lys Lys Val Thr Gly  
 35 40 45  
 Leu Pro Lys Thr Pro Ile Leu Lys  
 50 55

<210> 511  
 <211> 170  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 511  
 Asn Lys Phe Val Phe Leu Tyr Gly Asn Phe Ile Arg Val Thr Gln Glu  
 1 5 10 15

Lys	Ile	Lys	Ile	His	Val	Ser	Asn	Glu	Gln	Thr	Cys	Ile	Pro	Ile	His
			20					25					30		
Leu	Val	Ser	Val	Glu	Lys	Leu	Val	Leu	Thr	Leu	Leu	Glu	His	Leu	Lys
		35					40					45			
Val	Thr	Thr	Asn	Glu	Ile	Phe	Ile	Tyr	Phe	Leu	Glu	Asp	Lys	Ala	Leu
	50					55					60				
Ala	Glu	Leu	His	Asp	Lys	Val	Phe	Ala	Asp	Pro	Ser	Leu	Thr	Asp	Thr
65					70					75					80
Ile	Thr	Leu	Pro	Ile	Asp	Ala	Pro	Gly	Asp	Pro	Ala	Tyr	Pro	His	Val
				85					90					95	
Leu	Gly	Glu	Ala	Phe	Ile	Ser	Pro	Gln	Ala	Ala	Leu	Arg	Phe	Leu	Glu
			100					105					110		
Asn	Thr	Ser	Pro	Asn	Gln	Glu	Asp	Ile	Tyr	Glu	Glu	Ile	Ser	Arg	Tyr
	115						120					125			
Leu	Val	His	Ser	Ile	Leu	His	Met	Leu	Gly	Tyr	Asp	Asp	Thr	Ser	Ser
	130					135					140				
Glu	Glu	Lys	Arg	Lys	Met	Arg	Val	Lys	Glu	Asn	Gln	Ile	Leu	Cys	Met
145					150					155					160
Leu	Arg	Lys	Lys	His	Ala	Leu	Leu	Thr	Ala						
				165					170						

<210> 512  
 <211> 390  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 512

Gln	Leu	Asn	Met	Leu	His	Ile	Leu	Leu	Ala	Ile	Phe	Cys	Ile	Leu	Leu
1				5					10					15	
Phe	Leu	Ala	Phe	Gly	Leu	Thr	Gln	Pro	Ser	Cys	His	Gly	Ser	Ser	Lys
		20						25					30		
Phe	Leu	Lys	Thr	Leu	Asn	Gln	Arg	Phe	Phe	Lys	Asp	Lys	Gly	Arg	Glu
	35					40						45			
Tyr	Pro	Pro	Phe	Pro	Ser	Ala	Pro	Thr	Ile	Leu	Ala	Thr	Leu	Leu	Cys
	50					55					60				
Ile	Leu	Tyr	Gly	Ala	Leu	Gly	Thr	Lys	Leu	Tyr	Thr	Leu	Leu	Pro	Pro
65					70					75					80
Lys	Thr	Ala	His	Lys	Asp	Leu	Leu	Phe	Trp	Pro	Leu	Tyr	Ser	Leu	Ser
				85					90					95	
Ala	Leu	Ile	Ala	Tyr	Gly	Phe	Leu	Pro	Pro	Trp	Ile	Ser	Thr	Lys	Val
			100					105					110		
Pro	Lys	Glu	Thr	Thr	Ala	His	Leu	Arg	Phe	Leu	Ala	Ser	Val	Phe	Gln
	115						120					125			
Leu	Gly	Leu	Phe	Pro	Leu	Gln	Leu	Leu	Phe	Tyr	Arg	Arg	Arg	Pro	Asn
	130					135					140				
Gln	Gln	Val	Arg	Ser	Ser	Thr	Ser	Phe	Gln	Ser	Gln	Leu	Ser	Glu	Ala
145					150					155					160
Leu	Ser	Ala	Phe	Asp	Asn	Leu	Ile	Val	Arg	Glu	Val	Met	Ile	Pro	Lys
				165					170					175	
Val	Asp	Ile	Phe	Ala	Leu	Pro	Glu	Glu	Thr	Thr	Leu	Gln	Glu	Ala	Leu
			180					185					190		
Val	Leu	Val	Ser	Glu	Glu	Gly	Tyr	Ser	Arg	Val	Pro	Val	Tyr	Lys	Lys
	195						200					205			
Asn	Leu	Asp	Asn	Ile	Thr	Gly	Ile	Leu	Leu	Val	Lys	Asp	Leu	Leu	Leu
	210					215					220				
Leu	Tyr	Thr	Ser	Ser	His	Asp	Leu	Ser	Gln	Pro	Ile	Ser	Ser	Val	Ala
225					230					235					240
Lys	Pro	Pro	Phe	Tyr	Ala	Pro	Glu	Ile	Lys	Lys	Ala	Ser	Ser	Leu	Leu
				245					250					255	
Gln	Glu	Phe	Arg	Gln	Lys	His	Arg	His	Leu	Ala	Ile	Ile	Val	Asn	Glu
				260				265					270		

Tyr Gly Phe Thr Glu Gly Ile Ala Thr Met Glu Asp Ile Ile Glu Glu  
 275 280 285  
 Ile Ile Gly Glu Ile Ala Asp Glu His Asp Val Gln Glu Asn Thr Pro  
 290 295 300  
 Tyr Lys Lys Ile Gly Ser Ser Trp Ile Val Asp Gly Arg Met Asn Ile  
 305 310 315 320  
 Ser Asp Ala Glu Glu Tyr Phe Asn Leu Lys Ile Asp His Glu Asn Ser  
 325 330 335  
 Tyr Asp Thr Leu Gly Gly His Val Phe His Lys Val Gly Ala Val Pro  
 340 345 350  
 Gln Lys Gly Met Arg Ile His His Glu Asn Phe Asp Ile Glu Ile Ile  
 355 360 365  
 Thr Cys Thr Glu Arg Asn Val Gly Lys Leu Lys Ile Thr Pro Arg Lys  
 370 375 380  
 Arg Lys Phe Asn Ile Ser  
 385 390

<210> 513  
 <211> 116  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 513  
 Met Ser Asp Ile Gln Lys Glu Glu His Gly Ser Thr Thr Ile Phe His  
 1 5 10 15  
 Leu His Gly Lys Leu Asp Gly Ile Ser Ser Pro Glu Val Gln Glu Asn  
 20 25 30  
 Ile Ser Gln Ser Leu Ala Ala Gly Ser Lys Asn Ile Ile Leu Asp Cys  
 35 40 45  
 Ala His Leu Asp Tyr Met Ser Ser Ala Gly Ile Arg Val Leu Leu Gln  
 50 55 60  
 Ser Tyr His Gln Val Gly Gln His Ser Gly Lys Ile Val Leu Thr Thr  
 65 70 75 80  
 Val Pro Lys Thr Ile Glu Gln Thr Leu Tyr Val Thr Gly Phe Leu Ser  
 85 90 95  
 Tyr Phe Lys Ile Phe Asn Thr Val Asp Glu Ala Ile Gln Thr Leu Asn  
 100 105 110  
 Lys Asp Gly Asp  
 115

<210> 514  
 <211> 625  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 514  
 Ser Leu Pro Leu Thr Met Arg Arg Ser Val Cys Tyr Val Asn Pro Ser  
 1 5 10 15  
 Ile Ala Arg Ala Gly Gln Ile Ser Thr Trp Lys Phe Leu Tyr Ser Leu  
 20 25 30  
 Ala Thr Pro Leu Pro Ala Gly Thr Lys Cys Lys Phe Asp Leu Ala Gly  
 35 40 45  
 Ser Gly Lys Pro Thr Asp Trp Glu Ala Pro Ala Thr Asp Leu Ser Gln  
 50 55 60  
 Thr Arg Asn Val Ile Tyr Ala Glu Met Pro Glu Gly Glu Ile Ile Glu  
 65 70 75 80  
 Ala Thr Ala Ile Pro Val Lys Asp Asn Pro Val Pro Gln Phe Glu Phe  
 85 90 95  
 Thr Leu Pro Tyr Glu Leu Gln Val Gly Glu Thr Leu Thr Ile Val Met  
 100 105 110

Gly	Ala	Ser	Pro	Asn	His	Pro	Gln	Val	Asp	Asp	Ala	Gly	Asn	Gly	Ala
		115					120					125			
Gln	Leu	Phe	Ala	Gln	Arg	Arg	Lys	Pro	Phe	Tyr	Leu	Tyr	Ile	Asp	Pro
	130					135					140				
Thr	Gly	Glu	Gly	Asn	Tyr	Asp	Glu	Pro	Asp	Val	Phe	Ser	Met	Asp	Ile
145					150					155					160
Arg	Gly	Asn	Val	Leu	Lys	Lys	Ile	Glu	Ile	Phe	Thr	Pro	Ser	Tyr	Val
				165					170						175
Val	Lys	Asn	Lys	Arg	Phe	Asp	Ile	Thr	Val	Arg	Phe	Glu	Asp	Glu	Phe
			180					185					190		
Gly	Asn	Leu	Thr	Asn	Phe	Ser	Pro	Glu	Glu	Thr	Arg	Ile	Glu	Leu	Ser
	195						200					205			
Tyr	Glu	His	Leu	Arg	Glu	Asn	Leu	Asn	Trp	Gln	Leu	Phe	Ile	Pro	Glu
	210					215					220				
Thr	Gly	Phe	Val	Ile	Leu	Pro	Asn	Leu	Tyr	Phe	Asn	Glu	Pro	Gly	Ile
225					230					235					240
Tyr	Arg	Ile	Gln	Leu	Lys	Asn	Leu	Ser	Thr	Gln	Glu	Ile	Phe	Ile	Ser
				245					250					255	
Ala	Pro	Ile	Lys	Cys	Phe	Ala	Asp	Ser	Ala	Pro	Asn	Leu	Met	Trp	Gly
			260				265						270		
Leu	Leu	His	Gly	Glu	Ser	Glu	Arg	Val	Asp	Ser	Glu	Glu	Asn	Ile	Glu
		275					280					285			
Thr	Cys	Met	Arg	Tyr	Phe	Arg	Asp	Asp	Arg	Ala	Leu	Asn	Phe	Tyr	Ala
	290					295					300				
Ser	Ser	Ser	Phe	Glu	Asn	Gln	Glu	Asn	Leu	Ser	Pro	Asp	Ile	Trp	Lys
305					310					315					320
Leu	Ile	Asn	Gln	Thr	Val	Ser	Asp	Phe	Asn	Glu	Glu	Asp	Arg	Phe	Ile
				325					330					335	
Thr	Leu	Ser	Gly	Phe	Gln	Tyr	Ser	Gly	Glu	Pro	His	Leu	Glu	Gly	Val
			340					345					350		
Arg	His	Ile	Leu	His	Thr	Lys	Glu	Thr	Lys	Ser	His	Ser	Lys	His	Lys
		355					360					365			
Glu	Tyr	Lys	His	Ile	Pro	Leu	Ala	Lys	Leu	Tyr	Lys	Ser	Thr	Val	Asn
	370					375					380				
His	Asp	Met	Ile	Ser	Ile	Pro	Ser	Phe	Thr	Ala	Ser	Lys	Glu	His	Gly
385					390					395					400
Phe	Asp	Phe	Glu	Asn	Phe	Tyr	Pro	Glu	Phe	Glu	Arg	Val	Val	Glu	Ile
				405					410					415	
Tyr	Asn	Ala	Trp	Gly	Ser	Ser	Glu	Thr	Thr	Ala	Ala	Leu	Asn	Asn	Pro
			420					425					430		
Phe	Pro	Ile	Gln	Gly	Lys	Asp	Ser	Glu	Asp	Pro	Arg	Gly	Thr	Val	Ile
		435					440					445			
Glu	Gly	Leu	Lys	Lys	Asn	Leu	Arg	Phe	Gly	Phe	Val	Ala	Gly	Gly	Leu
	450					455					460				
Asp	Asp	Arg	Gly												

Asp Pro Asn Gly Lys Ala Pro Phe Val Phe Tyr Tyr Leu Arg Val Thr  
 595 600 605  
 Gln Ala Asp Asn Ala Met Ala Trp Ser Ser Pro Ile Trp Val Asp Leu  
 610 615 620  
 Asn  
 625

<210> 515  
 <211> 413  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 515  
 Val Pro Ile Cys Leu Ala Gly Pro Ser Leu Lys Gly Val Lys Asn Gln  
 1 5 10 15  
 Ile Ala Ala Lys Lys Lys His Val Thr Lys Gln Ser Thr Val Leu Gln  
 20 25 30  
 Asn Leu Glu Arg Ile Val His Gln Ser Val His Gln Met Thr Thr Cys  
 35 40 45  
 Leu Pro Gln Pro Pro Lys Thr Ser Pro Leu Tyr Ser Ile Phe Glu Lys  
 50 55 60  
 Leu Asp Ala Gln Glu Arg Leu Ser Ser Glu Asp Ala Leu His Leu Leu  
 65 70 75 80  
 Leu Leu Thr Asn Lys Glu Asp Gln Arg Thr Leu Trp Asn Phe Ala Asp  
 85 90 95  
 Gln Val Arg Lys Gln Arg Val Gly Asp Thr Val Tyr Tyr Ser Ser Thr  
 100 105 110  
 Leu Tyr Leu Tyr Pro Thr Asn Phe Cys Asp Phe Ser Cys Lys Phe Cys  
 115 120 125  
 Ser Phe Tyr Ala Lys Pro Gly Asp Pro Lys Gly Trp Leu Tyr Ser Pro  
 130 135 140  
 Asp Asp Leu Leu Gln Gln Ile Gln Asn Ile Lys Thr Pro Ile Thr Glu  
 145 150 155 160  
 Val His Ile Val Gly Gly Cys Phe Pro Ser Cys Asn Leu Gln Tyr Tyr  
 165 170 175  
 Ser Asp Leu Phe Thr Lys Ile Lys Glu Tyr Asp Pro Gln Ile His Ile  
 180 185 190  
 Lys Ala Leu Thr Ala Ile Glu Tyr Ala Tyr Leu Ser Asp Leu Asp Asn  
 195 200 205  
 Leu Ser Ile Arg Asp Val Leu Leu Thr Leu Lys Asp Ala Gly Leu Asp  
 210 215 220  
 Ser Ile Pro Gly Gly Gly Ala Glu Ile Leu Val Asp Lys Ile Arg Asn  
 225 230 235 240  
 Phe Leu Ala Pro Lys Arg Leu Ser Ser Ser Asp Phe Leu Asn Ile His  
 245 250 255  
 Lys Met Ala His Gln Leu Gly Ile His Ser Asn Ile Thr Met Leu Cys  
 260 265 270  
 Tyr His Lys Glu Gly Pro Glu Asp Leu Val Thr His Met Val Lys Val  
 275 280 285  
 Arg Asp Leu Gln Asp Glu Thr Gln Gly Phe Lys Asn Phe Ile Leu Leu  
 290 295 300  
 Lys Phe Ala Gln Glu Asn Asn Val Leu Gly Lys Arg Leu Arg Lys Ser  
 305 310 315 320  
 Gly Gln Gly His Ala Ile Pro Leu Lys Ser Leu Met Ala Val Ala Arg  
 325 330 335  
 Ile Phe Leu Asp Asn Phe Ser Asn Met Lys Ala Leu Trp Asn Tyr Leu  
 340 345 350  
 Gly Ile Glu Ala Ala Leu Asp Leu Leu Ser Cys Gly Ala Asn Asp Leu  
 355 360 365  
 Ser Ser Thr His Met Gly Glu Lys Val Phe Gln Met Ala Ser Ser Lys  
 370 375 380

Glu Pro Ile Lys Met Asp Ala Glu Gly Met Ala Ala Leu Ile Thr Gln  
 385 390 395 400  
 Gln Gly Arg Thr Pro Cys Leu Thr Asn Ser Ser His Val  
 405 410

<210> 516  
 <211> 277  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 516  
 Gly Asn Gly Gly Pro His His Thr Thr Arg Glu Asn Ala Met Ser Asn  
 1 5 10 15  
 Gln Leu Gln Pro Cys Ile Ser Leu Gly Cys Val Ser Tyr Ile Asn Ser  
 20 25 30  
 Phe Pro Leu Ser Leu Gln Leu Ile Lys Arg Asn Asp Ile Arg Cys Val  
 35 40 45  
 Leu Ala Pro Pro Ala Asp Leu Leu Asn Leu Leu Ile Glu Gly Lys Leu  
 50 55 60  
 Asp Val Ala Leu Thr Ser Ser Leu Gly Ala Ile Ser His Asn Leu Gly  
 65 70 75 80  
 Tyr Val Pro Gly Phe Gly Ile Ala Ala Asn Gln Arg Ile Leu Ser Val  
 85 90 95  
 Asn Leu Tyr Ala Ala Pro Thr Phe Phe Asn Ser Pro Gln Pro Arg Ile  
 100 105 110  
 Ala Ala Thr Leu Glu Ser Arg Ser Ser Ile Gly Leu Leu Lys Val Leu  
 115 120 125  
 Cys Arg His Leu Trp Arg Ile Pro Thr Pro His Ile Leu Arg Phe Ile  
 130 135 140  
 Thr Thr Lys Val Leu Arg Gln Thr Pro Glu Asn Tyr Asp Gly Leu Leu  
 145 150 155 160  
 Leu Ile Gly Asp Ala Ala Leu Gln His Pro Val Leu Pro Gly Phe Val  
 165 170 175  
 Thr Tyr Asp Leu Ala Ser Gly Trp Tyr Asp Leu Thr Lys Leu Pro Phe  
 180 185 190  
 Val Phe Ala Leu Leu Leu His Ser Thr Ser Trp Lys Glu His Pro Leu  
 195 200 205  
 Pro Asn Leu Ala Met Glu Glu Ala Leu Gln Gln Phe Glu Ser Ser Pro  
 210 215 220  
 Glu Glu Val Leu Lys Glu Ala His Gln His Thr Gly Leu Pro Pro Ser  
 225 230 235 240  
 Leu Leu Gln Glu Tyr Tyr Ala Leu Cys Gln Tyr Arg Leu Gly Glu Glu  
 245 250 255  
 His Tyr Glu Ser Phe Glu Lys Phe Arg Glu Tyr Tyr Gly Thr Leu Tyr  
 260 265 270  
 Gln Gln Ala Arg Leu  
 275

<210> 517  
 <211> 244  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 517  
 Glu Lys Asn Thr Thr Lys Ala Leu Lys Asn Ser Gly Asn Ile Met Glu  
 1 5 10 15  
 Pro Ser Thr Asn Lys Pro Asp Cys Lys Lys Ile Phe Asp Ser Ile Ala  
 20 25 30  
 Ser Lys Tyr Asp Arg Thr Asn Thr Ile Leu Ser Leu Gly Met His His  
 35 40 45



Phe	Trp	Asn	Arg	Ser	Leu	Ile	Gln	Ile	Leu	Gly	Ser	Gly	Tyr	Ser	Leu
50						55					60				
Leu	Asp	Leu	Cys	Ala	Gly	Thr	Gly	Lys	Val	Ala	Lys	Arg	Tyr	Ile	Ala
65					70					75					80
Ala	His	Pro	Gln	Ala	Ser	Val	Thr	Leu	Val	Asp	Phe	Ser	Ser	Ala	Met
				85					90					95	
Leu	Asp	Ile	Ala	Lys	Gln	His	Leu	Pro	Gln	Gly	Ser	Cys	Ser	Phe	Ile
			100					105					110		
His	Ser	Asp	Ile	Asn	Gln	Leu	Pro	Leu	Glu	Asn	His	Ser	Tyr	Pro	Leu
	115						120					125			
Ala	Ala	Met	Ala	Tyr	Gly	Leu	Arg	Asn	Leu	Ser	Asp	Pro	His	Lys	Ala
	130					135				140					
Leu	Gln	Glu	Ile	Ser	Arg	Val	Leu	Met	Pro	Ser	Gly	Lys	Leu	Gly	Ile
145					150					155					160
Leu	Glu	Leu	Thr	Pro	Pro	Lys	Lys	Thr	His	Pro	Thr	Tyr	Ser	Ala	His
				165					170					175	
Lys	Leu	Tyr	Leu	Arg	Ala	Val	Val	Pro	Trp	Ile	Gly	Lys	Ser	Val	Ser
			180					185					190		
Lys	Asp	Pro	Asp	Ala	Tyr	Ser	Tyr	Leu	Ser	Lys	Ser	Ile	Gln	Gln	Leu
	195						200					205			
Pro	Lys	Asp	His	Asp	Leu	Glu	Asp	Leu	Phe	Ser	Lys	Ser	Gly	Phe	Tyr
	210					215					220				
Ile	Ala	Lys	Lys	Lys	Lys	Leu	Phe	Leu	Gly	Ala	Ala	Thr	Ile	Trp	Leu
225					230					235					240
Leu	Glu	Lys	Gln												

<210> 518

<211> 550

<212> PRT

<213> Chlamydia pneumoniae

<400> 518

Arg	Ile	Ser	Ile	Ser	Phe	Arg	Val	Ser	Trp	Phe	Val	Lys	Ile	Ile	Leu
1				5					10					15	
Ala	Val	Leu	Gly	Arg	Ala	Ile	Ala	Lys	Ala	Tyr	Tyr	Val	Cys	Met	Val
			20					25					30		
Ala	Arg	Gly	Leu	Cys	Asp	Phe	Pro	Thr	Leu	Val	Pro	Asn	Glu	Arg	Leu
		35					40					45			
Pro	Ile	Gly	Pro	Phe	Phe	Val	Pro	Gln	His	Thr	Ser	Gly	Ala	Lys	Gly
	50					55					60				
Lys	Glu	Phe	Ala	Lys	Arg	Asn	Phe	Ser	Ile	Ile	Ser	Gly	Leu	Asp	Asp
65					70					75					80
Ile	Leu	Lys	Leu	Cys	Ile	Leu	Gln	Arg	Arg	Pro	Phe	Ala	Leu	Gln	Trp
				85					90					95	
Asp	Asn	Leu	Ser	Val	Lys	Ser	Asp	Tyr	Glu	Glu	Ala	Gly	Pro	Ala	Ile
			100					105					110		
Gly	Ile	Arg	Ser	Leu	Glu	Pro	Gln	Val	Ser	Gln	Ile	Ser	Pro	Ala	His
		115					120					125			
Gly	Arg	Leu	Cys	Ser	Thr	Leu	Val	Gln	Trp	Ala	Pro	Ile	Leu	Gly	Ser
		130				135					140				
Glu	Glu	Gln	Leu	Val	Trp	Leu	Glu	Glu	Thr	Met	Lys	Arg	Leu	Lys	Phe
145					150					155					160
Pro	Lys	Ser	Leu	Gly	Ser	Lys	Asp	Ala	Val	Ile	Val	Asp	Ser	Glu	Met
				165					170					175	
Val	Pro	Val	Asn	Ala	Asn	Pro	Thr	Gln	Glu	Ile	Pro	Ala	Ala	Ser	Glu
			180					185					190		
Thr	Val	Glu	Ser	Ser	Pro	Val	Ala	Pro	Gly	Asn	Thr	Thr	Asp	Thr	Met
		195					200					205			
Pro	Ala	Ala	Ser	Gly	Thr	Thr	Asp	Thr	Thr	Ser	Gly	Val	Ser	Glu	Ala
	210					215					220				

Ala	Ala	Ala	Glu	Ala	Ala	Val	Asp	Ser	Thr	Pro	Gly	Thr	Glu	Glu	Glu
225					230					235					240
Pro	Ser	Phe	Ser	Leu	Arg	Tyr	Ala	Leu	Val	Val	Gln	Asn	Val	Pro	Tyr
				245					250					255	
Pro	Glu	Pro	Pro	Lys	Glu	Pro	Glu	Val	Met	Phe	Thr	Asp	Glu	Glu	Lys
			260					265					270		
Ser	Leu	Ile	Leu	Glu	Ala	Thr	Arg	Ala	Arg	Arg	Met	Glu	Leu	Asp	Leu
		275					280					285			
Tyr	Asn	Gly	Tyr	Leu	Ala	Asp	Tyr	Glu	Leu	Ser	Lys	Asp	Glu	Ile	Gln
	290					295					300				
Lys	His	Val	Pro	Asp	Leu	Pro	Glu	Asn	Trp	Arg	Thr	Asn	Trp	Arg	Trp
305					310					315					320
Ser	Glu	Arg	Leu	Tyr	Lys	Phe	Phe	Phe	Lys	Thr	Lys	Lys	Glu	Gly	Leu
				325					330					335	
Glu	Glu	Ile	Phe	Leu	Asn	Lys	Glu	Leu	Gly	Asn	Met	Ile	Leu	Ala	Arg
			340					345					350		
Gly	Leu	Ala	Ala	Thr	Gln	Ser	Gln	Ala	Arg	Ile	Lys	Val	Phe	Asn	Ser
	355						360					365			
Leu	Val	Ala	Trp	Leu	Leu	Gln	Ser	Phe	Asn	Val	Gly	Arg	Ser	Cys	Thr
	370					375					380				
Ala	Lys	Pro	Leu	Pro	Thr	Ser	Lys	Leu	Asp	Leu	Phe	Lys	Ser	Glu	Phe
385					390					395					400
Glu	Ser	Lys	Pro	Lys	Asn	Asn	Ile	Leu	Thr	Glu	Phe	Leu	Val	Ala	Ser
				405					410					415	
Asp	Glu	Glu	Ile	Leu	Phe	Lys	Gly	Leu	Arg	Val	Leu	Glu	Pro	Gly	Ile
			420					425					430		
Glu	Gly	Trp	Tyr	Asp	His	Pro	Asp	Gln	Ala	Gly	Glu	Ile	Arg	Ser	Val
		435					440					445			
Leu	Glu	Gly	Leu	Val	Gln	Ala	Gly	Arg	Ile	Ser	Gly	Tyr	Trp	Glu	Asn
	450					455					460				
Gln	Pro	Phe	Gly	Arg	Phe	Val	Leu	Arg	Gly	Val	Gly	Glu	Arg	Arg	Thr
465					470					475					480
Glu	Leu	Val	Glu	Leu	Glu	Ser	Leu	Val	Ala	Ser	Gly	Glu	Ile	Met	
				485				490					495		
Gln	Phe	Phe	Glu	Ser	Ser	Asp	Glu	Glu	Gly	Ala	Phe	Ile	Ile	Asp	Asn
			500					505					510		
Glu	Pro	Ser	Lys	Thr	Ala	Met	Leu	Lys	Gln	Arg	Phe	Lys	Ser	Cys	Val
			515				520					525			
Arg	Thr	Lys	Leu	Val	Gly	Ser	Phe	Ala	Asp	Glu	Ser	Leu	Pro	Arg	Gly
	530					535					540				
Arg	Phe	Thr	Ile	Leu	Val										
545					550										

<210> 519

<211> 281

<212> PRT

<213> Chlamydia pneumoniae

<400> 519

Phe	Ile	Met	Ser	Ser	Leu	Leu	Ser	Cys	Gly	Arg	Ile	Glu	Pro	Thr	Arg
1				5					10					15	
Val	Thr	Cys	Ser	Leu	Lys	Thr	Tyr	Leu	Glu	Asp	Thr	Ser	Gln	Asn	Gln
			20					25					30		
Leu	Ser	Thr	Arg	Leu	Val	Arg	Ala	Ser	Val	Ile	Phe	Leu	Cys	Ala	Leu
			35				40					45			
Leu	Ile	Ile	Leu	Val	Cys	Val	Ala	Leu	Ser	Ser	Leu	Ile	Pro	Ser	Ile
	50					55					60				
Met	Ala	Leu	Ala	Thr	Ser	Phe	Thr	Val	Met	Gly	Leu	Ile	Leu	Phe	Val
65					70					75					80
Met	Ser	Leu	Leu	Gly	Asp	Val	Ala	Ile	Ile	Ser	Tyr	Leu	Thr	Tyr	Ser
				85					90						95

Thr	Val	Thr	Ser	Tyr	Arg	Gln	Asn	Lys	Arg	Ala	Phe	Glu	Ile	His	Lys
			100					105					110		
Pro	Ala	Arg	Ser	Val	Tyr	Tyr	Glu	Gly	Val	Arg	His	Trp	Asp	Leu	Gly
		115					120					125			
Arg	Ser	Ser	Leu	Gly	Thr	Gly	Glu	Ile	Pro	Ile	Val	Arg	Thr	Leu	Phe
	130					135					140				
Ser	Pro	Phe	Gln	Asn	His	Gly	Leu	Asn	His	Ala	Leu	Ala	Ala	Lys	Ile
145					150					155				160	
Phe	Leu	Phe	Met	Glu	His	Phe	Ser	Pro	Glu	Pro	Pro	Asn	Glu	Pro	Leu
			165						170					175	
Val	Asp	Trp	Ala	Cys	Leu	Ile	Arg	Asp	Phe	Arg	Pro	His	Val	Ser	Ser
			180					185					190		
Leu	Cys	Phe	Val	Ile	Glu	Lys	Gln	Gly	Ser	Ser	Leu	Arg	Thr	Lys	Glu
	195						200				205				
Gly	Asn	Thr	Ile	Cys	Glu	Ala	Phe	Arg	Ser	Asp	Tyr	Asp	Ala	His	Phe
	210					215				220					
Ala	Met	Val	Asp	Cys	Tyr	Arg	Leu	Ile	His	Ser	Lys	Leu	Ile	Ile	Glu
225					230					235					240
Lys	Met	Gly	Leu	Lys	Asn	Ile	Asp	Ile	Ile	Pro	Ser	Val	Met	Val	Arg
			245					250						255	
Glu	Asp	Tyr	Pro	Ser	Arg	Pro	Gly	Glu	Gly	Tyr	Arg	Glu	Gly	Leu	Leu
		260						265					270		
Arg	Met	Tyr	Gly	Gly	Lys	Gly	Ala	Leu							
		275					280								

<210> 520

<211> 325

<212> PRT

<213> Chlamydia pneumoniae

<400> 520

Phe	Met	Met	Thr	Tyr	Pro	Val	Pro	Gln	Asn	Pro	Leu	Leu	Leu	Arg	Ile
1				5					10					15	
Leu	Arg	Leu	Met	Asp	Ala	Phe	Ser	Lys	Ser	Asp	Asp	Glu	Arg	Asp	Phe
		20						25					30		
Tyr	Leu	Asp	Arg	Val	Glu	Gly	Phe	Ile	Leu	Tyr	Ile	Asp	Leu	Asp	Lys
	35					40					45				
Asp	Gln	Glu	Asp	Leu	Asn	Lys	Ile	Tyr	Gln	Glu	Leu	Glu	Glu	Asn	Ala
50					55						60				
Glu	Arg	Tyr	Cys	Leu	Ile	Pro	Lys	Leu	Thr	Phe	Tyr	Glu	Val	Lys	Lys
65					70					75				80	
Ile	Met	Glu	Thr	Phe	Ile	Asn	Glu	Lys	Ile	Tyr	Asp	Ile	Asp	Thr	Lys
			85						90					95	
Glu	Lys	Phe	Leu	Glu	Ile	Leu	Gln	Ser	Lys	Asn	Ala	Arg	Glu	Gln	Phe
		100					105						110		
Leu	Glu	Phe	Ile	Tyr	Asp	His	Glu	Ala	Glu	Leu	Glu	Lys	Trp	Gln	Gln
	115						120					125			
Phe	Tyr	Val	Glu	Arg	Ser	Arg	Ile	Arg	Ile	Ile	Glu	Trp	Leu	Arg	Asn
	130					135					140				
Asn	Lys	Phe	His	Phe	Val	Phe	Glu	Glu	Asp	Leu	Asp	Phe	Thr	Lys	Asn
145					150					155				160	
Val	Leu	Glu	Gln	Leu	Lys	Ile	His	Leu	Phe	Asp	Ala	Lys	Val	Gly	Lys
			165						170					175	
Glu	Ile	Thr	Gln	Ala	Arg	Gln	Leu	Leu	Ser	Asn	Lys	Ala	Lys	Ile	Tyr
		180					185						190		
Tyr	Ser	Asn	Glu	Ala	Leu	Asn	Pro	Arg	Pro	Lys	Arg	Gly	Arg	Pro	Pro
	195						200					205			
Lys	Gln	Ser	Ala	Lys	Val	Glu	Thr	Glu	Thr	Thr	Ile	Ser	Ser	Asp	Ile
	210					215					220				
Tyr	Thr	Lys	Val	Pro	Gln	Ala	Ala	Arg	Arg	Phe	Leu	Phe	Leu	Pro	Glu
225					230					235					240

Ile	Thr	Ser	Pro	Ser	Ser	Ile	Thr	Phe	Ser	Glu	Lys	Phe	Asp	Thr	Glu
				245					250					255	
Glu	Glu	Phe	Leu	Ala	Asn	Leu	Arg	Gly	Ser	Thr	Arg	Val	Glu	Asp	Gln
			260					265					270		
Leu	Asn	Leu	Thr	Asn	Leu	Ser	Glu	Arg	Phe	Ala	Ser	Leu	Lys	Glu	Leu
		275					280					285			
Ser	Ala	Lys	Leu	Gly	Tyr	Asp	Ser	Leu	Ser	Thr	Gly	Asp	Phe	Phe	Gly
	290				295						300				
Asp	Asp	Asp	Glu	Lys	Val	Val	Thr	Lys	Thr	Lys	Gly	Ser	Lys	Arg	Gly
305					310					315					320
Arg	Lys	Lys	Ser	Ser											
				325											

<210> 521

<211> 268

<212> PRT

<213> Chlamydia pneumoniae

<400> 521

Gln	Pro	Thr	Lys	Leu	Arg	Ile	Leu	Val	Tyr	Trp	Met	Ala	Phe	Tyr	Ser
1				5					10					15	
Pro	Ser	Thr	Ile	Ser	Lys	Tyr	Phe	Ile	Tyr	Ser	Gly	Ala	Gly	Asn	Arg
			20					25					30		
Phe	Leu	Leu	Gly	Glu	Thr	Leu	Pro	Glu	Val	Glu	Asp	Val	Arg	Phe	Leu
		35				40						45			
Cys	Gln	Glu	Thr	Arg	Val	Asp	Gly	Phe	Leu	Tyr	Leu	Lys	Pro	Ser	Ser
50					55						60				
Cys	Ala	Asp	Ala	Gln	Leu	Ile	Ile	Phe	Asn	Ser	Asp	Gly	Ser	Arg	Pro
65				70					75						80
Thr	Met	Cys	Gly	Asn	Gly	Leu	Arg	Cys	Ala	Ile	Ala	His	Leu	Ala	Ser
				85				90						95	
Gln	Lys	Gly	Lys	Ser	Asp	Ile	Ser	Val	Ser	Thr	Asp	Ser	Gly	Leu	Tyr
			100					105					110		
Ser	Gly	Tyr	Phe	Tyr	Ser	Trp	Asp	Arg	Val	Leu	Val	Asp	Met	Thr	Leu
	115					120						125			
Ala	Asp	Trp	Arg	Ala	Ser	Val	His	Arg	Leu	Glu	Ser	Arg	Pro	Asp	Pro
	130					135						140			
Leu	Pro	Lys	Glu	Val	Val	Cys	Ile	His	Thr	Gly	Val	Pro	His	Ala	Val
145				150						155					160
Val	Ile	Leu	Pro	Glu	Ile	Ser	Thr	Leu	Asp	Leu	Ser	Ile	Leu	Gly	Pro
			165					170						175	
Phe	Leu	Arg	Tyr	His	Gln	Thr	Phe	Ser	Pro	Asp	Gly	Val	Asn	Val	Asn
		180						185					190		
Phe	Val	Gln	Ile	Leu	Gly	His	Cys	Gln	Leu	Arg	Val	Arg	Thr	Tyr	Glu
		195					200					205			
Arg	Gly	Val	Glu	Gly	Glu	Thr	Ala	Ala	Cys	Gly	Thr	Gly	Ala	Leu	Ala
	210					215					220				
Ser	Ala	Leu	Val	Val	Ser	Asn	Ser	Tyr	Gly	Trp	Lys	Glu	Ser	Ile	Gln
225				230						235					240
Ile	His	Thr	Trp	Gly	Gly	Glu	Leu	Met	Thr	Val	Ser	Gln	Asn	Arg	Gly
			245						250					255	
Arg	Val	Tyr	Leu	Gln	Gly	Ser	Val	Thr	Arg	Asp	Leu				
			260					265							

<210> 522

<211> 196

<212> PRT

<213> Chlamydia pneumoniae

<400> 522

Glu	Arg	His	Tyr	Phe	Met	Ala	Asp	Gly	Glu	Val	His	Lys	Leu	Arg	Asp
1				5					10					15	
Ile	Ile	Glu	Lys	Glu	Leu	Leu	Glu	Ala	Arg	Arg	Val	Phe	Phe	Ser	Glu
		20						25					30		
Pro	Val	Thr	Glu	Lys	Ser	Ala	Ser	Asp	Ala	Ile	Lys	Lys	Leu	Trp	Tyr
		35					40					45			
Leu	Glu	Leu	Lys	Asp	Pro	Gly	Lys	Pro	Ile	Val	Phe	Val	Ile	Asn	Ser
	50					55					60				
Pro	Gly	Gly	Ser	Val	Asp	Ala	Gly	Phe	Ala	Val	Trp	Asp	Gln	Ile	Lys
65				70						75				80	
Met	Leu	Thr	Ser	Pro	Val	Thr	Thr	Val	Val	Thr	Gly	Leu	Ala	Ala	Ser
				85					90					95	
Met	Gly	Ser	Val	Leu	Ser	Leu	Cys	Ala	Ala	Pro	Gly	Arg	Arg	Phe	Ala
			100					105					110		
Thr	Pro	His	Ser	Arg	Ile	Met	Ile	His	Gln	Pro	Ser	Ile	Gly	Gly	Pro
		115					120					125			
Ile	Thr	Gly	Gln	Ala	Thr	Asp	Leu	Asp	Ile	His	Ala	Arg	Glu	Ile	Leu
	130					135					140				
Lys	Thr	Lys	Ala	Arg	Ile	Ile	Asp	Val	Tyr	Val	Glu	Ala	Thr	Asn	Gln
145					150					155				160	
Pro	Arg	Asp	Ile	Ile	Glu	Lys	Ala	Ile	Asp	Arg	Asp	Met	Trp	Met	Thr
				165					170					175	
Ala	Asn	Glu	Ala	Lys	Asp	Phe	Gly	Leu	Leu	Asp	Gly	Ile	Leu	Phe	Ser
			180					185					190		
Phe	Asn	Asp	Leu												
			195												

<210> 523  
 <211> 521  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 523

Lys	Ser	Leu	Leu	Lys	Val	Phe	Glu	Lys	Phe	Lys	Lys	Phe	Ala	Ile	Val
1				5					10					15	
Glu	Ile	Phe	Thr	Lys	Val	Val	Ala	Val	Val	Ser	Leu	Leu	His	Lys	Phe
			20					25					30		
Leu	Glu	Asn	Ala	Ser	Gly	Lys	Lys	Gly	Gln	Ser	Leu	Ala	Ser	Thr	Ala
		35					40					45			
Tyr	Leu	Ala	Ala	Leu	Asp	His	Leu	Leu	Asn	Ala	Phe	Pro	Ser	Ile	Gly
	50					55					60				
Glu	Arg	Ile	Ile	Asp	Glu	Leu	Lys	Ser	Gln	Arg	Ser	His	Leu	Lys	Met
65				70						75				80	
Ile	Ala	Ser	Glu	Asn	Tyr	Ser	Ser	Leu	Ser	Val	Gln	Leu	Ala	Met	Gly
				85					90					95	
Asn	Leu	Leu	Thr	Asp	Lys	Tyr	Cys	Glu	Gly	Ser	Pro	Phe	Lys	Arg	Phe
			100					105					110		
Tyr	Ser	Cys	Cys	Glu	Asn	Val	Asp	Ala	Ile	Glu	Trp	Glu	Cys	Val	Glu
		115					120					125			
Thr	Ala	Lys	Glu	Leu	Phe	Ala	Ala	Asp	Cys	Ala	Cys	Val	Gln	Pro	His
	130					135					140				
Ser	Gly	Ala	Asp	Ala	Asn	Leu	Leu	Ala	Val	Met	Ala	Ile	Leu	Thr	His
145					150					155				160	
Lys	Val	Gln	Gly	Pro	Ala	Val	Ser	Lys	Leu	Gly	Tyr	Lys	Thr	Val	Asn
				165					170					175	
Glu	Leu	Thr	Glu	Glu	Glu	Tyr	Thr	Leu	Leu	Lys	Ala	Glu	Met	Ser	Ser
			180					185					190		
Cys	Val	Cys	Leu	Gly	Pro	Ser	Leu	Asn	Ser	Gly	Gly	His	Leu	Thr	His
			195				200					205			

Gly Asn Val Arg Leu Asn Val Met Ser Lys Leu Met Arg Cys Phe Pro  
 210 215 220  
 Tyr Asp Val Asn Pro Asp Thr Glu Cys Phe Asp Tyr Ala Glu Ile Ser  
 225 230 235 240  
 Arg Leu Ala Lys Glu Tyr Lys Pro Lys Val Leu Ile Ala Gly Tyr Ser  
 245 250 255  
 Ser Tyr Ser Arg Arg Leu Asn Phe Ala Val Leu Lys Gln Ile Ala Glu  
 260 265 270  
 Asp Cys Gly Ser Val Leu Trp Val Asp Met Ala His Phe Ala Gly Leu  
 275 280 285  
 Val Ala Gly Gly Val Phe Val Asp Glu Glu Asn Pro Ile Pro Tyr Ala  
 290 295 300  
 Asp Ile Val Thr Thr Thr Thr His Lys Thr Leu Arg Gly Pro Arg Gly  
 305 310 315 320  
 Gly Leu Val Leu Ala Thr Arg Glu Tyr Glu Ser Thr Leu Asn Lys Ala  
 325 330 335  
 Cys Pro Leu Met Met Gly Gly Pro Leu Pro His Val Ile Ala Ala Lys  
 340 345 350  
 Thr Val Ala Leu Lys Glu Ala Leu Ser Val Asp Phe Lys Lys Tyr Ala  
 355 360 365  
 His Gln Val Val Asn Asn Ala Arg Arg Leu Ala Glu Arg Phe Leu Ser  
 370 375 380  
 His Gly Leu Arg Leu Leu Thr Gly Gly Thr Asp Asn His Met Met Val  
 385 390 395 400  
 Ile Asp Leu Gly Ser Leu Gly Ile Ser Gly Lys Ile Ala Glu Asp Ile  
 405 410 415  
 Leu Ser Ser Val Gly Ile Ala Val Asn Arg Asn Ser Leu Pro Ser Asp  
 420 425 430  
 Ala Ile Gly Lys Trp Asp Thr Ser Gly Ile Arg Leu Gly Thr Pro Ala  
 435 440 445  
 Leu Thr Thr Leu Gly Met Gly Ile Asp Glu Met Glu Glu Val Ala Asp  
 450 455 460  
 Ile Ile Val Lys Val Leu Arg Asn Ile Arg Leu Ser Cys His Val Glu  
 465 470 475 480  
 Gly Ser Ser Lys Lys Asn Lys Gly Glu Leu Pro Glu Ala Ile Ala Gln  
 485 490 495  
 Glu Ala Arg Asp Arg Val Arg Asn Leu Leu Leu Arg Phe Pro Leu Tyr  
 500 505 510  
 Pro Glu Ile Asp Leu Glu Ala Leu Val  
 515 520

<210> 524

<211> 277

<212> PRT

<213> Chlamydia pneumoniae

<400> 524

Arg Glu Pro Leu Ser Pro Glu Lys Thr Ser Leu Ala Phe Lys Val Lys  
 1 5 10 15  
 Asn Val Asn Gln Arg Met Ile Lys Lys Asn Gln Gly Lys Lys Asn  
 20 25 30  
 Tyr Phe Gln Tyr Ile Pro Leu Lys Val Gln Lys Leu Arg Gln Pro Ser  
 35 40 45  
 Phe Tyr Pro Lys Arg Leu Met Thr Leu Tyr Leu Gly Leu Asn Gln Lys  
 50 55 60  
 Thr Ala Arg Lys Tyr Gln Ala His Tyr Leu Pro Ile Leu Thr Leu Phe  
 65 70 75 80  
 Pro Tyr Ala Lys Ser Thr Pro Gln Asn Lys Arg Ala Leu Gln Phe Leu  
 85 90 95  
 Pro Gln Ala Thr His Val Ile Leu Thr Ser Pro Ser Ser Thr His Leu  
 100 105 110

Phe Leu Ser Arg Met Thr Ser Leu Leu Ser Lys Ala Thr Leu Lys Thr  
 115 120 125  
 Lys Thr Tyr Leu Cys Ile Gly Glu Ser Thr Lys Glu Arg Leu Leu Ser  
 130 135 140  
 Phe Leu Gly Gln Val Lys Tyr Val Val Ala Thr Gln Glu Ile Ala Glu  
 145 150 155 160  
 Gly Ile Phe Pro Leu Leu Gln Ala Leu Pro Ser Ser Ala Arg Ile Leu  
 165 170 175  
 Tyr Pro His Ser Ser Leu Ala Arg Pro Val Ile Arg Glu Phe Leu Tyr  
 180 185 190  
 Asn Arg Phe Thr Phe Phe Ser Tyr Pro His Tyr Thr Val Lys Pro Arg  
 195 200 205  
 Lys Leu Lys Lys Asn Ile Leu Ser Lys Tyr Lys Lys Ile Ile Phe Thr  
 210 215 220  
 Ser Pro Ser Thr Val Arg Ala Phe Ala Lys Ile Phe Pro Arg Phe Pro  
 225 230 235 240  
 Glu Lys Thr Tyr Trp Cys Gln Gly Arg Met Thr Leu Gln Glu Phe Gln  
 245 250 255  
 Lys Phe Ser Ser Gln Lys Gln Val Ser Leu Leu Glu Thr Leu Gly Lys  
 260 265 270  
 Ser Arg Thr Ser Pro  
 275

<210> 525  
 <211> 111  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 525  
 Phe Met Ala Ser Ser Ala Thr Pro Gly Phe Asp Gly Thr Ala Pro Ser  
 1 5 10 15  
 Leu Phe Pro Pro Ala Thr Arg Pro Arg Tyr Asn Phe Lys Leu Ala Leu  
 20 25 30  
 Phe Val Thr Ile Ala Ile Ala Leu Val Trp Ile Ala Leu Ile Ala Thr  
 35 40 45  
 Thr Ile Ala Ile Gly Leu Cys Ile His Pro Leu Cys Ser Phe Ile Phe  
 50 55 60  
 Leu Thr Ala Ile Pro Leu Tyr Phe Ile Ser Arg Tyr Ile Cys Ser His  
 65 70 75 80  
 Tyr Ala Arg Asn Val Tyr Ile Ala Leu Asp Val Val Pro Asp His Ser  
 85 90 95  
 Lys Leu Gln Asp Met Arg Ser His Ser Pro Ile Phe Ser Asp Arg  
 100 105 110

<210> 526  
 <211> 367  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 526  
 Lys Val Phe Tyr Lys Lys Asn Val Met Ser Gly Pro Ser Arg Thr Glu  
 1 5 10 15  
 Ser Ser Gln Val Ser Val Leu Ser Tyr Val Pro Arg Asp Lys Glu Ile  
 20 25 30  
 Ala Pro Lys Lys Gln Phe Thr Ile Ala Lys Ile Ser Thr Leu Ala Ile  
 35 40 45  
 Leu Ala Ser Leu Ala Leu Gly Ala Leu Val Ala Gly Ile Ser Leu Thr  
 50 55 60  
 Ile Val Leu Gly Asn Pro Val Phe Leu Ala Leu Leu Ile Thr Thr Ala  
 65 70 75 80

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<210> 527
<211> 258
<212> PRT
<213> Chlamydia pneumoniae
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792



Val Ile Glu Lys Glu Ile Phe Glu Ser Ile Lys Lys Ile Asn Glu Glu  
 145 150 155 160  
 Gly Lys Ala Leu Leu Glu Gln Arg Thr Glu Leu Lys His Ala Thr Asn  
 165 170 175  
 Pro Glu Leu Leu Ser Ile Tyr Glu Arg Leu Leu Asn Asn Lys Lys Asp  
 180 185 190  
 Arg Val Val Val Pro Ile Glu Asn Arg Val Cys Ser Gly Cys His Ile  
 195 200 205  
 Val Leu Thr Pro Gln His Glu Asn Leu Val Arg Lys Lys Asp Arg Leu  
 210 215 220  
 Ile Phe Cys Glu His Cys Ser Arg Ile Leu Tyr Trp Gln Glu Ser Gln  
 225 230 235 240  
 Val Asn Ala Gln Glu Asn Ser Thr Ala Lys Arg Arg Arg Arg Arg Ala  
 245 250 255  
 Ala Val

<210> 528  
 <211> 354  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 528  
 Val Phe Asn Leu Ile Glu Lys Ser Phe Gly Val Cys Tyr Asp Gly Leu  
 1 5 10 15  
 Lys Cys Ser Gln Ser Lys Glu Asn Arg Met Pro Ser Pro Met Ile Ser  
 20 25 30  
 Thr Asp Val Cys Gln Asp Ile Leu Gly Lys Gln Lys Glu Ala Val Asp  
 35 40 45  
 Phe Phe Phe Gln Ala Phe Gln Pro Lys Glu Ala Met Gln Leu Ala Glu  
 50 55 60  
 Lys Ile Leu Gly His Ser Gly Trp Val Phe Phe Ser Gly Val Gly Lys  
 65 70 75 80  
 Ser Gly Cys Val Ala Arg Lys Leu Val Ala Thr Leu Gln Ser Leu Ser  
 85 90 95  
 Glu Arg Ala Leu Phe Phe Ser Pro Val Asp Leu Leu His Gly Asp Leu  
 100 105 110  
 Gly Leu Val Ser Pro Gly Asp Ile Val Cys Leu Phe Ser Lys Ser Gly  
 115 120 125  
 Glu Thr Gln Glu Leu Leu Asp Thr Val Pro His Leu Lys Ser Arg Arg  
 130 135 140  
 Ala Ile Leu Val Ala Ile Thr Ser Met Pro Tyr Ser Asn Leu Ala Ala  
 145 150 155 160  
 Leu Ser Asp Leu Val Val Ile Leu Pro Ser Val Ala Glu Leu Asp Pro  
 165 170 175  
 Phe Asn Leu Ile Pro Thr Asn Ser Thr Thr Cys Gln Met Ile Phe Gly  
 180 185 190  
 Asp Phe Leu Ala Met Leu Leu Phe His Ser Arg Gly Val Ser Leu Ser  
 195 200 205  
 Thr Tyr Gly Lys Asn His Pro Ser Gly Gln Val Gly Met Lys Ala Asn  
 210 215 220  
 Gly Lys Val Lys Asp Phe Met Phe Pro Lys Thr Glu Val Pro Phe Cys  
 225 230 235 240  
 His Leu Gly Asp Lys Val Ser Phe Ser Leu Glu Val Phe Ser Ala Tyr  
 245 250 255  
 Gly Cys Gly Cys Val Cys Ile Val Asp Pro Gln Phe Arg Leu Met Gly  
 260 265 270  
 Ile Phe Thr Asp Gly Asp Leu Arg Arg Ser Leu Ala Ser Tyr Gly Gly  
 275 280 285  
 Glu Val Leu Ser Leu Ser Leu Glu Lys Val Met Thr Ala Asn Pro Arg  
 290 295 300

Cys Ile Thr Glu Asp Ser Asp Ile Ala Ile Ala Leu Gln Leu Met Glu  
 305 310 315 320  
 Ser Ser Ser Pro Val Ala Val Leu Pro Val Leu Asp Asn Glu Glu Asn  
 325 330 335  
 Arg His Val Thr Gly Leu Leu His Met His Thr Leu Ala Lys Ala Gly  
 340 345 350  
 Leu Leu

<210> 529  
 <211> 395  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 529  
 Arg Tyr Met Ile Phe Glu Phe Arg Phe Pro Lys Ile Gly Glu Thr Ser  
 1 5 10 15  
 Ser Gly Gly Ser Ile Val Arg Trp Leu Lys Asn Leu Gly Asp His Val  
 20 25 30  
 Ala Arg Asp Glu Pro Leu Ile Glu Val Ser Thr Asp Lys Ile Ala Thr  
 35 40 45  
 Glu Leu Pro Ser Pro Lys Ala Gly Arg Leu Val Arg Phe Cys Val Asn  
 50 55 60  
 Glu Gly Asp Glu Val Ala Ser Gly Asp Val Leu Gly Leu Ile Glu Leu  
 65 70 75 80  
 Glu Glu Ile Ser Glu Ala Asp Asp Glu Ser Thr Ser Cys Pro Pro Thr  
 85 90 95  
 Ser Cys Glu Thr Lys Ser Glu Ala Gly Ser Ser Ser Ser Ser Val Trp  
 100 105 110  
 Phe Ser Pro Ala Val Leu Ser Leu Ala Gln Arg Glu Gly Ile Gly Leu  
 115 120 125  
 Asp Asn Leu Gln Lys Ile Ala Gly Thr Gly Lys Gly Gly Arg Val Thr  
 130 135 140  
 Arg Gln Asp Leu Glu Ala Tyr Ile Ser Glu Ser Gln Gln Val Ser Ile  
 145 150 155 160  
 Pro Glu Ile Phe Gln Gly Glu Val Asn Arg Ile Pro Met Ser Pro Leu  
 165 170 175  
 Arg Arg Ala Ile Ala Ser Ser Leu Ser Lys Ser Ser Asp Glu Val Pro  
 180 185 190  
 His Ala Ser Leu Val Val Asp Val Asp Val Thr Asp Leu Met Asn Leu  
 195 200 205  
 Ile Ser Gly Glu Arg Gln Arg Phe Leu Asp Thr His Gly Val Lys Leu  
 210 215 220  
 Thr Ile Thr Ser Phe Ile Val Gln Cys Leu Ala Gln Thr Leu Arg Gln  
 225 230 235 240  
 Phe Pro Leu Leu Asn Gly Ser Leu Asp Gly Thr Thr Ile Val Met Lys  
 245 250 255  
 Lys Ser Val Asn Val Gly Val Ala Val Asn Leu Asn Lys Glu Gly Val  
 260 265 270  
 Val Val Pro Val Ile His Asn Cys Gln Asp Arg Gly Leu Val Ser Ile  
 275 280 285  
 Ala Lys Ala Leu Ala Asp Leu Ser Ser Arg Ala Arg Leu Asn Lys Leu  
 290 295 300  
 Asp Pro Ser Glu Val Gln Asp Gly Ser Val Thr Val Thr Asn Phe Gly  
 305 310 315 320  
 Met Thr Gly Ala Leu Ile Gly Met Pro Ile Ile Arg Tyr Pro Glu Val  
 325 330 335  
 Ala Ile Leu Gly Ile Gly Thr Ile Gln Lys Arg Val Val Val Arg Asp  
 340 345 350  
 Asp Asp Ser Leu Ala Ile Arg Lys Met Val Tyr Val Thr Leu Thr Phe  
 355 360 365

Asp His Arg Val Leu Asp Gly Ile Tyr Gly Ser Glu Phe Leu Thr Ser  
 370 375 380  
 Leu Lys Asn Arg Leu Glu Ser Val Thr Met Gly  
 385 390 395

<210> 530  
 <211> 415  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 530  
 Leu Met Lys Leu Trp Met Lys Ile Phe Ile Gly Leu Phe Val Gly Val  
 1 5 10 15  
 Thr Leu Gly Leu Val Leu Glu Asp Lys Ala Ile Phe Phe Lys Pro Ile  
 20 25 30  
 Gly Asp Ile Phe Leu Asn Leu Leu Ser Met Val Val Tyr Pro Leu Val  
 35 40 45  
 Phe Cys Ser Met Val Leu Gly Ile Ala Ser Ile Ser Asp Met Lys Lys  
 50 55 60  
 Leu Gly Arg Ile Gly Ile Lys Ser Val Gly Leu Tyr Leu Gly Thr Thr  
 65 70 75 80  
 Ala Leu Ala Ile Val Ile Gly Leu Cys Phe Ala Trp Ile Phe Ser Pro  
 85 90 95  
 Gly Asn Gly Cys Asp Phe Ala Gln Ala Gln Ser Met Asp Ser Ala Val  
 100 105 110  
 Thr Val Ile Asp Ser Asn Lys Thr Ala Ala Tyr Phe Leu Ser Ile Ile  
 115 120 125  
 Ala Gln Val Phe Pro Ser Asn Pro Val Arg Ser Phe Ala Glu Gly Asn  
 130 135 140  
 Ile Leu Gln Ile Ile Ile Phe Ala Ile Phe Leu Gly Ile Ala Leu Arg  
 145 150 155 160  
 Leu Ser Gly Glu Arg Gly Arg Pro Val Glu Arg Phe Ile Asp Gly Phe  
 165 170 175  
 Ser Glu Ile Met Leu Arg Met Val Asn Met Ile Met Ser Phe Ala Pro  
 180 185 190  
 Tyr Gly Val Gly Ala Ser Met Ala Trp Ile Ser Gly Asn His Gly Leu  
 195 200 205  
 Gly Val Leu Trp Gln Leu Gly Lys Phe Ile Ile Ala Tyr Tyr Leu Ala  
 210 215 220  
 Cys Leu Phe His Ala Thr Leu Val Phe Gly Gly Leu Val Arg Phe Gly  
 225 230 235 240  
 Cys Lys Met Ser Phe Ser Lys Phe Leu Ser Ser Met Met Asp Ala Ile  
 245 250 255  
 Ser Cys Ala Val Ser Thr Ala Ser Ser Ala Thr Leu Pro Val Thr  
 260 265 270  
 Met Arg Cys Val Ser Lys Asn Leu Gly Val Ser Ala Glu Val Ser Gly  
 275 280 285  
 Phe Val Leu Pro Leu Gly Ala Thr Val Asn Met Asn Gly Thr Ala Ile  
 290 295 300  
 Phe Gln Gly Met Ala Ala Val Phe Ile Ala Gln Ala Tyr Asn Cys Pro  
 305 310 315 320  
 Leu Ser Leu Ser Ser Leu Leu Leu Leu Val Val Thr Ala Thr Phe Ser  
 325 330 335  
 Ala Val Gly Ser Ala Gly Val Pro Gly Gly Gly Met Ile Thr Leu Gly  
 340 345 350  
 Ser Val Leu Ala Ser Val Gly Leu Pro Ile Gln Gly Ile Ala Ile Leu  
 355 360 365  
 Ala Gly Ile Asp Arg Leu Arg Asp Ile Val Gly Thr Pro Met Asn Ile  
 370 375 380  
 Leu Gly Asp Ala Val Val Ala Thr Tyr Val Ala Ser Gly Glu Gly Glu  
 385 390 395 400

Leu Ser Pro Tyr Glu Ser Ile Lys Gln Glu Ser Val Glu Thr Thr  
405 410 415

<210> 531  
<211> 378  
<212> PRT  
<213> Chlamydia pneumoniae

<400> 531  
Phe Ser Cys Lys Glu Ile Arg Ala Phe Lys Arg Gly Thr Met Lys Lys  
1 5 10 15  
Arg Phe Pro Ser Thr Leu Phe Leu Phe Tyr Arg Arg Val Thr Ile Ala  
20 25 30  
Ile Ser Leu Glu Gly Ile Leu Gly Trp Gly Trp Leu Gly Ser Leu Leu  
35 40 45  
Ser Lys Val Phe Ala Phe Leu Val Ala Cys Trp Asn Arg Phe Ser Trp  
50 55 60  
Ser Thr Pro Tyr Arg Ala Arg Ser Thr Val Ile Ser Val Gly Asn Ile  
65 70 75 80  
Val Val Gly Gly Ala Gly Lys Thr Pro Thr Val Leu Trp Leu Ala Glu  
85 90 95  
Ala Leu Arg Leu Arg Gly Tyr Ser Cys Gly Val Leu Ser Arg Gly Tyr  
100 105 110  
Lys Ser Gln Ser Ser Arg Gln Lys Lys Leu Thr Val Val Asp Ser Lys  
115 120 125  
Val His Ser Ala Ser Tyr Val Gly Asp Glu Pro Leu Met Ala Glu  
130 135 140  
Lys Leu Pro Glu Gly Ser Val Trp Val His Lys Asp Arg Arg Ile Ser  
145 150 155 160  
Ala Ala Arg Ala Ala Glu Lys Phe Gly Ile Leu Leu Leu Asp Asp Gly  
165 170 175  
Leu Gln Tyr Arg Lys Leu His Lys Asp Val Glu Ile Ala Val Val Asn  
180 185 190  
Gly Gln Asp Pro Leu Gly Gly Arg Ala Phe Phe Pro Lys Gly Arg Leu  
195 200 205  
Arg Asp Phe Pro Leu Arg Leu Lys Thr Val Asp Ala Ile Ile Val Asn  
210 215 220  
Gly Gly Gly Lys Glu Ala Gly Thr Val Val Lys Arg Val Ser Asn Ala  
225 230 235 240  
Pro Gln Ile Phe Val Lys Pro Thr Ile Ala Ser Val Val Trp Thr His  
245 250 255  
Asn Gly Glu Arg Ile Pro Lys Glu Ala Leu Arg Glu Leu Arg Val Gly  
260 265 270  
Val Phe Cys Gly Leu Gly Phe Pro Gln Gly Phe Leu Asn Met Leu Arg  
275 280 285  
Glu Glu Gly Ile His Ile Leu Gly Lys Tyr Leu Leu Pro Asp His Ala  
290 295 300  
Ala Ile Thr Lys Lys Glu Leu Asn Tyr Phe Cys Gln Gln Met Ala Met  
305 310 315 320  
Arg Gln Gly Gln Gly Leu Leu Cys Thr Glu Lys Asp Ser Val Lys Leu  
325 330 335  
Pro Arg Leu Ser Gly Glu Val Ser Leu Leu Pro Ile Ala Lys Val Glu  
340 345 350  
Met Arg Leu Ser Val Asn Gln Asp Thr Leu Ser Leu Leu Asn Met  
355 360 365  
Ile Glu Gln Ile His Lys Asn Arg Gly Asn  
370 375

<210> 532  
 <211> 288  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 532  
 Ser Val Val Leu Trp Gly Lys Phe Leu Trp Arg Arg Cys Gly Ser Leu  
 1 5 10 15  
 Ala Phe Trp Glu Phe Cys Ser Met Asp Cys Ile Gly Lys His Asn Pro  
 20 25 30  
 Leu Val Lys Glu Ala Leu Ala Leu Lys Arg Ser Arg Cys Arg Lys Ser  
 35 40 45  
 Ser Trp Phe Leu Val Glu Gly Ala Arg Glu Ile Gln Lys Ala Leu Arg  
 50 55 60  
 Thr Gly Tyr Leu Cys Gln His Val Phe Cys Ser Thr His Leu Ser Glu  
 65 70 75 80  
 Lys Glu Lys Glu Phe Leu Tyr Glu Leu Lys Arg Asn Ser Thr Lys Ile  
 85 90 95  
 Leu Tyr Cys Leu Asp Ser Thr Leu Ala Gln Leu Ser Phe Lys Glu His  
 100 105 110  
 His Asp Ser Phe Val Ala Val Ile Gln Lys Arg Val Trp Asn Lys Glu  
 115 120 125  
 Asp Phe Leu Ile Gln Arg Lys Asn Ala Gln Pro Phe Tyr Leu Ile Ile  
 130 135 140  
 Glu Gln Val Glu Lys Pro Gly Asn Val Gly Ala Ile Leu Arg Ile Ala  
 145 150 155 160  
 Asp Gly Ala Gly Val Asp Gly Val Ile Leu Cys Asn Pro Ile Val Asp  
 165 170 175  
 Leu Tyr Asn Pro Asn Val Val Arg Ser Ser Leu Gly Ala Val Phe Ser  
 180 185 190  
 Leu Pro Ile Leu Ser Ile Ser Arg Glu Glu Gly Lys Glu Leu Phe Lys  
 195 200 205  
 Gln Glu Gly Trp Thr Val Phe Val Thr Ser Pro Arg Ala Glu Thr Met  
 210 215 220  
 Tyr Phe Ser Lys Asn Tyr Leu Gly Pro Thr Ala Leu Val Phe Gly Ser  
 225 230 235 240  
 Glu Lys Asp Gly Leu Thr Glu Asp Trp Phe Ser Glu Asp Phe Ser Glu  
 245 250 255  
 Ile Ala Leu Pro Met Leu Gly Glu Ser Asp Ser Leu Asn Leu Ala Thr  
 260 265 270  
 Ser Val Ala Ala Val Ala Tyr Glu Val Val Arg Gln Arg Trp Val Asn  
 275 280 285

<210> 533  
 <211> 318  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 533  
 Asp Ser Ser Lys Asp Asp Phe Arg Lys Glu Lys Gly Arg Arg Lys Ser  
 1 5 10 15  
 Gln Tyr Arg Asp Arg Tyr Val Asn Lys Asp Thr Gly Arg His Ser Lys  
 20 25 30  
 Thr Tyr Phe Ser Leu Ile Arg Glu Arg Leu Val Met Asp Tyr Lys Leu  
 35 40 45  
 Leu Asp Ser Gly Asp Gly Asn Lys Leu Glu Cys Phe Gly Pro Val Thr  
 50 55 60  
 Leu Ile Arg Pro Ser Ser Ile Ala Val Trp Pro Lys Ser Arg Pro Glu  
 65 70 75 80  
 Leu Trp Ser Gln Ala Gln Leu Gln Tyr Val Arg Glu Gly Glu Arg Gly  
 85 90 95

Ala	Trp	Lys	Asn	Phe	Lys	Arg	Leu	Pro	Glu	Glu	Trp	Glu	Val	Ala	Phe	
			100					105					110			
Ser	Asp	Val	Arg	Cys	Leu	Leu	Lys	Arg	Thr	Pro	Phe	Gly	His	Leu	Gly	
		115					120					125				
Val	Phe	Pro	Glu	His	Met	Gly	Phe	Trp	Pro	Ala	Leu	Lys	Gln	Ala	Ile	
	130					135					140					
Glu	Lys	His	Lys	Glu	Arg	Gln	Val	Leu	Asn	Leu	Phe	Ala	Tyr	Thr	Gly	
145					150					155					160	
Ala	Gly	Ser	Ile	Phe	Ala	Ala	Lys	Cys	Gly	Ala	Arg	Val	Thr	His	Val	
				165					170					175		
Asp	Ala	Ser	Gln	Ala	Ala	Val	Arg	Trp	Ala	Gln	Arg	Asn	Val	Glu	Lys	
		180						185					190			
Asn	Ala	Phe	Pro	Glu	Arg	Arg	Ile	Phe	Trp	Val	Ile	Glu	Asp	Val	Ile	
	195						200					205				
Ser	Phe	Leu	Lys	Lys	Glu	Ile	Arg	Arg	Asn	Lys	Lys	Tyr	Gln	Val	Ile	
	210					215					220					
Leu	Leu	Asp	Pro	Pro	Ser	Tyr	Gly	Arg	Gly	Pro	Asp	Gly	Glu	Val	Phe	
225					230					235					240	
Lys	Ile	Asp	Lys	Asp	Leu	Phe	Pro	Leu	Leu	Ser	Leu	Cys	Ser	Lys	Leu	
				245					250					255		
Leu	Ala	Asp	Asp	Ala	Ser	Tyr	Phe	Leu	Leu	Thr	Ser	His	Thr	Pro	Gly	
		260					265						270			
His	Thr	Pro	Glu	Phe	Leu	Arg	Ala	Ile	Ala	Arg	Arg	Ser	Val	Pro	Thr	
	275						280					285				
Leu	Val	Ser	Glu	Ala	Trp	Ser	Cys	Gly	Glu	Ser	Phe	Cys	Gly	Glu	Gly	
	290					295				300						
Val	Gly	Ala	Leu	Pro	Ser	Gly	Ser	Phe	Val	Gln	Trp	Ile	Ala			
305					310					315						

<210> 534

<211> 214

<212> PRT

<213> Chlamydia pneumoniae

<400> 534

Glu	Ser	Phe	Cys	Cys	Lys	Asp	Ser	Val	Val	Lys	Trp	Gly	Gly	Met	Phe	
1			5						10					15		
Ser	Gly	Ile	Ile	Gln	Glu	Leu	Gly	Glu	Val	Cys	Phe	Phe	Glu	Ala	Gln	
		20						25					30			
Gly	Asn	Gly	Leu	Ser	Leu	Gly	Ile	Lys	Ser	Thr	Pro	Leu	Phe	Val	Thr	
	35					40						45				
Pro	Leu	Val	Thr	Gly	Asp	Ser	Val	Ala	Val	Asp	Gly	Val	Cys	Leu	Thr	
	50				55					60						
Leu	Thr	Ser	Cys	Asn	Glu	Ser	Lys	Ile	Phe	Phe	Asp	Val	Ile	Pro	Glu	
65				70					75					80		
Thr	Leu	Ala	Cys	Thr	Thr	Leu	Gly	Glu	Lys	Arg	Cys	Ser	Asp	Gln	Val	
			85					90					95			
Asn	Leu	Glu	Ala	Ala	Leu	Lys	Met	Gly	Asp	Ser	Ile	Gly	Gly	His	Leu	
		100						105					110			
Leu	Ser	Gly	His	Val	Phe	Gly	Thr	Ala	Glu	Ile	Phe	Leu	Ile	Lys	Glu	
	115						120					125				
Asn	Arg	Tyr	Tyr	Phe	Arg	Gly	Ser	Lys	Glu	Leu	Ser	Gln	Tyr	Leu	Phe	
	130					135					140					
Glu	Lys	Gly	Phe	Ile	Ala	Ile	Asp	Gly	Ile	Ser	Leu	Thr	Leu	Val	Ser	
145				150					155					160		
Val	Asp	Ser	Asp	Thr	Phe	Ser	Val	Gly	Leu	Ile	Pro	Glu	Thr	Leu	Gln	
			165					170					175			
Arg	Thr	Thr	Leu	Gly	Lys	Lys	Arg	Glu	Gly	Glu	Arg	Val	Asn	Ile	Glu	
		180					185					190				
Ile	Asp	Met	Ser	Thr	Lys	Ile	Gln	Val	Asp	Thr	Val	Lys	Arg	Ile	Leu	
	195						200					205				

Ala Ser Ser Gly Lys Asp  
210

<210> 535  
<211> 156  
<212> PRT  
<213> Chlamydia pneumoniae

<400> 535  
Glu Val Ala Pro Met Gln Cys Pro Phe Cys Asn His Gly Glu Leu Lys  
1 5 10 15  
Val Ile Asp Ser Arg Asn Ala Pro Glu Ala Asn Ala Ile Lys Arg Arg  
20 25 30  
Arg Glu Cys Leu Lys Cys Ser Gln Arg Phe Thr Thr Phe Glu Thr Val  
35 40 45  
Glu Leu Thr Leu Gln Val Leu Lys Arg Asp Gly Arg Tyr Glu Asn Phe  
50 55 60  
Gln Glu Ser Lys Leu Ile His Gly Leu Asn Ala Ala Ser Ser His Thr  
65 70 75 80  
Arg Ile Gly Gln Asp Gln Val His Ala Ile Ala Ser Asn Val Lys Ser  
85 90 95  
Glu Leu Leu Gly Lys Gln Asn Arg Glu Ile Ser Thr Lys Glu Ile Gly  
100 105 110  
Glu Leu Val Met Lys Tyr Leu Lys Lys Ala Asp Met Ile Ala Tyr Ile  
115 120 125  
Arg Phe Ala Cys Val Tyr Arg Arg Phe Lys Asp Val Gly Glu Leu Met  
130 135 140  
Glu Val Leu Leu Ser Ala Thr Pro Asp Met Glu Lys  
145 150 155

<210> 536  
<211> 132  
<212> PRT  
<213> Chlamydia pneumoniae

<400> 536  
Leu Asn Phe Ile Arg Ser Lys Val Val Pro Leu Ser Asp Asp Glu Ile  
1 5 10 15  
Glu Gln Phe Lys Lys Arg Leu Leu Glu Met Lys Ala Lys Leu Ser His  
20 25 30  
Thr Leu Glu Gly Asn Ala Gln Glu Val Lys Lys Pro Asn Glu Ala Thr  
35 40 45  
Gly Tyr Ser Gln His Gln Ala Asp Gln Gly Thr Asp Thr Phe Asp Arg  
50 55 60  
Thr Ile Ser Leu Glu Val Thr Thr Lys Glu Tyr Glu Leu Leu Arg Gln  
65 70 75 80  
Ile Asn Arg Ala Leu Glu Lys Ile Asn Glu Ser Ser Tyr Gly Ile Cys  
85 90 95  
Asp Val Ser Gly Glu Glu Ile Pro Leu Ala Arg Leu Ile Ala Ile Pro  
100 105 110  
Tyr Ala Thr Met Thr Val Lys Ala Gln Glu Gln Phe Glu Lys Gly Leu  
115 120 125  
Leu Ser Gly Asn  
130

<210> 537  
<211> 178  
<212> PRT  
<213> Chlamydia pneumoniae

<400> 537

Lys	Arg	Thr	Pro	Ile	Trp	Lys	Leu	Ser	Ser	Met	Ala	Thr	Arg	Phe	Arg
1				5					10					15	
Ser	Thr	Leu	Leu	Val	Ile	Thr	Leu	Phe	Val	Leu	Ile	Asp	Trp	Val	Thr
		20						25					30		
Lys	Leu	Val	Val	Leu	Leu	Gln	Tyr	Lys	Asp	Leu	Gln	Ile	Leu	Thr	His
	35						40					45			
Pro	Thr	Leu	Tyr	Thr	His	Ser	Trp	Gly	Arg	Phe	Ser	Phe	Ser	Ile	Ala
	50				55						60				
Pro	Val	Phe	Asn	Glu	Gly	Ala	Ala	Phe	Gly	Leu	Phe	Ser	Asn	Tyr	Lys
65				70					75					80	
Tyr	Phe	Leu	Phe	Leu	Leu	Arg	Ile	Phe	Val	Ile	Leu	Gly	Leu	Leu	Ala
			85					90					95		
Tyr	Leu	Phe	Phe	Lys	Lys	Lys	Ser	Ile	Gln	Ser	Thr	Thr	Gln	Thr	Ala
			100					105					110		
Leu	Val	Leu	Leu	Cys	Ala	Gly	Ala	Ile	Gly	Asn	Val	Gly	Asp	Ile	Ile
		115					120					125			
Phe	Tyr	Gly	His	Ile	Val	Asp	Phe	Ile	Ser	Phe	Asn	Tyr	Lys	Gln	Trp
	130					135					140				
Ala	Phe	Pro	Thr	Phe	Asn	Val	Ala	Asp	Val	Leu	Ile	Ser	Leu	Gly	Thr
145					150					155				160	
Leu	Leu	Leu	Val	Tyr	Lys	Phe	Tyr	Phe	Pro	Thr	Lys	Gln	Thr	Glu	Lys
				165					170					175	

Lys Arg

<210> 538

<211> 464

<212> PRT

<213> Chlamydia pneumoniae

<400> 538

Tyr	Arg	Ser	Leu	Gln	Glu	Lys	Leu	Arg	Tyr	Phe	Phe	Lys	Thr	Val	Met
1				5					10					15	
Asn	Arg	Leu	Leu	Ser	Leu	Leu	Ser	Val	Phe	Asp	Asp	Phe	Phe	Trp	Ser
		20						25					30		
Tyr	Val	Ala	Phe	Ile	Leu	Ile	Ile	Val	Leu	Gly	Val	Ser	Phe	Ser	Trp
		35					40					45			
Lys	Ser	Arg	Phe	Phe	Gln	Phe	Thr	Lys	Phe	Ser	Gln	Phe	Cys	Lys	Leu
	50				55						60				
Phe	Arg	Tyr	Tyr	Ser	Gln	Asn	Pro	Gln	Glu	Arg	Glu	Thr	Lys	Gln	Gly
65				70					75					80	
Val	His	Pro	Leu	Lys	Val	Phe	Phe	Ala	Ser	Ala	Gly	Gly	Asn	Ile	Gly
				85				90					95		
Ile	Gly	Asn	Val	Val	Gly	Ile	Val	Thr	Ala	Ala	Cys	Ile	Gly	Gly	Pro
		100						105				110			
Gly	Ala	Leu	Phe	Trp	Val	Trp	Ile	Ala	Gly	Ile	Phe	Gly	Ser	Ile	Val
		115					120					125			
Lys	Tyr	Ser	Glu	Val	Tyr	Leu	Gly	Ile	Lys	Phe	Arg	Lys	Leu	Asp	Arg
	130					135					140				
Asp	Gly	Val	Tyr	Gln	Gly	Gly	Pro	Met	Tyr	Phe	Leu	Ile	Lys	Ala	Phe
145				150						155				160	
Lys	Thr	Pro	Val	Val	Ser	Val	Ile	Val	Ala	Ile	Leu	Leu	Cys	Ile	Tyr
				165				170						175	
Gly	Val	Glu	Ile	Tyr	Gln	Phe	Ser	Val	Ile	Thr	Asp	Ser	Leu	Ala	His
			180					185					190		
Cys	Trp	Asn	Leu	Pro	Lys	Val	Tyr	Pro	Met	Leu	Gly	Leu	Leu	Phe	Leu
		195					200					205			
Val	Phe	Tyr	Ala	Ile	Arg	Gly	Gly	Leu	Gln	Arg	Ile	Gly	Lys	Ile	Cys
	210					215					220				



Ser Ile Val Leu Pro Phe Phe Met Leu Leu Tyr Cys Ala Leu Ser Leu  
 225 230 235 240  
 Tyr Ile Leu Val Lys Glu Phe His Thr Leu Pro His Leu Leu Ser Thr  
 245 250 255  
 Val Phe Ser Ser Ala Phe Lys Gly Gln Ser Ala Leu Gly Gly Phe Ala  
 260 265 270  
 Gly Cys Thr Val Ala Thr Thr Ile His Gln Gly Ile Ser Arg Ala Ala  
 275 280 285  
 Tyr Ser Gly Asp Ile Gly Ile Gly Phe Asp Ser Ile Ile Gln Ser Glu  
 290 295 300  
 Ser Ser Ala Lys Asp Pro Ser Thr Gln Ala Gln Leu Ser Ile Val Gly  
 305 310 315 320  
 Ile Ala Ile Asp Asn Leu Ile Cys Thr Leu Ser Leu Leu Met Val Leu  
 325 330 335  
 Ala Ser Gly Ser Trp Ser Leu Gly Leu Glu Asn Ala Ser Gln Val Val  
 340 345 350  
 Glu His Thr Leu Ala Ser Tyr Phe Pro Met Val Lys Phe Phe Leu Pro  
 355 360 365  
 Thr Phe Phe Phe Val Thr Gly Tyr Thr Thr Ile Ile Ser Tyr Phe Leu  
 370 375 380  
 Val Gly Lys Lys Cys Ala Lys Phe Leu Tyr Gly Asn Thr Gly Ala Lys  
 385 390 395 400  
 Ile Tyr Thr Leu Tyr Gly Leu Leu Ile Leu Pro Leu Phe Cys Phe Leu  
 405 410 415  
 Ser Gln Asn Thr Ala Leu Leu Ile Met Ser Val Ser Gly Ala Leu Leu  
 420 425 430  
 Leu Cys Phe Asn Leu Leu Gly Val Phe Ile Leu Arg Lys Glu Val Ile  
 435 440 445  
 Phe Pro Ala Arg Ala Ala Ser Leu Thr Glu Thr Ser Leu Ser Thr Glu  
 450 455 460

<210> 539  
 <211> 125  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 539  
 Leu Ile Phe Leu Leu Phe Met Asp Asn Tyr Leu Leu Gly Ser Leu Ile  
 1 5 10 15  
 Phe Cys Cys Val Leu Leu Ser Ile Gly Met Cys Thr Ile Phe Val Met  
 20 25 30  
 Thr Ile Cys Phe Leu Arg Gln Leu Asn Lys Ile Leu Lys Asn Ile His  
 35 40 45  
 Arg Val Thr Thr Ile Leu Asn Phe Glu Ala Lys Ile Leu Ala Pro Leu  
 50 55 60  
 Met Leu Gly Lys Lys Leu Leu Cys Gly Trp Leu Lys Lys Arg Lys Asn  
 65 70 75 80  
 Arg Gly Ser Leu Ser Glu Asp Ile Asp Glu Leu Leu Asp Glu Lys Lys  
 85 90 95  
 Gln Arg Ser Trp Lys Lys Asn Leu Asp Gln Gly Ile Lys Trp Cys Ala  
 100 105 110  
 Ala Leu Val Leu Ile Trp Lys Val Phe Arg Asn Lys Asp  
 115 120 125

<210> 540  
 <211> 128  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 540

Thr	Lys	Glu	Leu	Asn	Gly	Ala	Gln	His	Trp	Ser	Ser	Phe	Gly	Lys	Cys
1				5					10					15	
Phe	Val	Ile	Lys	Ile	Lys	Thr	Leu	Arg	Asp	Ile	Val	Met	Phe	Arg	Asn
			20					25					30		
Asn	His	Lys	Pro	Lys	Lys	Thr	Lys	Cys	Lys	Arg	Phe	Arg	Trp	Leu	Arg
			35				40					45			
Gly	Val	Leu	Phe	Gly	Gly	Phe	Ile	Ala	Thr	Leu	Leu	Thr	Cys	Leu	Phe
	50					55				60					
Thr	Pro	Lys	Ser	Gly	Val	Gln	Leu	Arg	Lys	Lys	Ile	Leu	Lys	Val	Lys
65					70					75					80
Asn	Ser	Gly	Ala	Lys	Lys	Ser	Arg	Val	Phe	Phe	Lys	Asn	Ser	Lys	Gln
				85					90					95	
His	Thr	Lys	Ser	Phe	Val	Lys	Gln	Ala	Lys	Leu	Leu	Ala	Lys	Asn	Ile
				100				105					110		
Ser	His	Glu	Leu	Gln	Asp	Phe	Lys	Gly	Ile	Leu	Asp	Asp	Lys	Asp	
			115				120					125			

<210> 541

<211> 956

<212> PRT

<213> Chlamydia pneumoniae

<400> 541

Gly	Tyr	Asn	Leu	Leu	Gly	Leu	Arg	His	Met	Lys	Gln	Met	Arg	Leu	Trp
1				5					10					15	
Gly	Phe	Leu	Phe	Leu	Ser	Ser	Phe	Cys	Gln	Val	Ser	Tyr	Leu	Arg	Ala
			20					25					30		
Asn	Asp	Val	Leu	Leu	Pro	Leu	Ser	Gly	Ile	His	Ser	Gly	Glu	Asp	Leu
		35					40					45			
Glu	Leu	Phe	Thr	Leu	Arg	Ser	Ser	Ser	Pro	Thr	Lys	Thr	Thr	Tyr	Ser
	50					55					60				
Leu	Arg	Lys	Asp	Phe	Ile	Val	Cys	Asp	Phe	Ala	Gly	Asn	Ser	Ile	His
65					70					75					80
Lys	Pro	Gly	Ala	Ala	Phe	Leu	Asn	Leu	Lys	Gly	Asp	Leu	Phe	Phe	Ile
				85					90					95	
Asn	Ser	Thr	Pro	Leu	Ala	Ala	Leu	Thr	Phe	Lys	Asn	Ile	His	Leu	Gly
			100					105					110		
Ala	Arg	Gly	Ala	Gly	Leu	Phe	Ser	Glu	Ser	Asn	Val	Thr	Phe	Lys	Gly
			115				120					125			
Leu	His	Ser	Leu	Val	Leu	Glu	Asn	Asn	Glu	Ser	Trp	Gly	Gly	Val	Leu
	130					135					140				
Thr	Thr	Ser	Gly	Asp	Leu	Ser	Phe	Ile	Asn	Asn	Thr	Ser	Val	Leu	Cys
145					150					155					160
Gln	Asn	Asn	Ile	Ser	Tyr	Gly	Pro	Gly	Gly	Ala	Leu	Leu	Leu	Gln	Gly
				165					170					175	
Arg	Lys	Ser	Lys	Ala	Leu	Phe	Phe	Arg	Asp	Asn	Arg	Gly	Thr	Ile	Leu
			180					185					190		
Phe	Leu	Lys	Asn	Lys	Ala	Val	Asn	Gln	Asp	Glu	Ser	His	Pro	Gly	Tyr
			195				200					205			
Gly	Gly	Ala	Val	Ser	Ser	Ile	Ser	Pro	Gly	Ser	Pro	Ile	Thr	Phe	Ala
	210					215					220				
Asp	Asn	Gln	Glu	Ile	Leu	Phe	Gln	Glu	Asn	Glu	Gly	Glu	Leu	Gly	Gly
225					230					235					240
Ala	Ile	Tyr	Asn	Asp	Gln	Gly	Ala	Ile	Thr	Phe	Glu	Asn	Asn	Phe	Gln
				245					250					255	
Thr	Thr	Ser	Phe	Phe	Ser	Asn	Lys	Ala	Ser	Phe	Gly	Gly	Ala	Val	Tyr
			260					265					270		
Ser	Arg	Tyr	Cys	Asn	Leu	Tyr	Ser	Gln	Trp	Gly	Asp	Thr	Leu	Phe	Thr
			275				280						285		

Lys	Asn	Ala	Ala	Ala	Lys	Val	Gly	Gly	Ala	Ile	His	Ala	Asp	Tyr	Val	290	295	300
His	Ile	Arg	Asp	Cys	Lys	Gly	Ser	Ile	Val	Phe	Glu	Glu	Asn	Ser	Ala	305	310	315
Thr	Ala	Gly	Gly	Ala	Ile	Ala	Val	Asn	Ala	Val	Cys	Asp	Ile	Asn	Ala	325	330	335
Gln	Gly	Pro	Val	Arg	Phe	Ile	Asn	Asn	Ser	Ala	Leu	Gly	Leu	Asn	Gly	340	345	350
Gly	Ala	Ile	Tyr	Met	Gln	Ala	Thr	Gly	Ser	Ile	Leu	Arg	Leu	His	Ala	355	360	365
Asn	Gln	Gly	Asp	Ile	Glu	Phe	Cys	Gly	Asn	Lys	Val	Arg	Ser	Gln	Phe	370	375	380
His	Ser	His	Ile	Asn	Ser	Thr	Ser	Asn	Phe	Thr	Asn	Asn	Ala	Ile	Thr	385	390	395
Ile	Gln	Gly	Ala	Pro	Arg	Glu	Phe	Ser	Leu	Ser	Ala	Asn	Glu	Gly	His	405	410	415
Arg	Ile	Cys	Phe	Tyr	Asp	Pro	Ile	Ile	Ser	Ala	Thr	Glu	Asn	Tyr	Asn	420	425	430
Ser	Leu	Tyr	Ile	Asn	His	Gln	Arg	Leu	Leu	Glu	Ala	Gly	Gly	Ala	Val	435	440	445
Ile	Phe	Ser	Gly	Ala	Arg	Leu	Ser	Pro	Glu	His	Lys	Lys	Glu	Asn	Lys	450	455	460
Asn	Lys	Thr	Ser	Ile	Ile	Asn	Gln	Pro	Val	Arg	Leu	Cys	Ser	Gly	Val	465	470	475
Leu	Ser	Ile	Glu	Gly	Ala	Ile	Leu	Ala	Val	Arg	Ser	Phe	Tyr	Gln		485	490	495
Glu	Gly	Gly	Leu	Leu	Ala	Leu	Gly	Pro	Gly	Ser	Lys	Leu	Thr	Thr	Gln	500	505	510
Gly	Lys	Asn	Ser	Glu	Lys	Asp	Lys	Ile	Val	Ile	Thr	Asn	Leu	Gly	Phe	515	520	525
Asn	Leu	Glu	Asn	Leu	Asp	Ser	Ser	Asp	Pro	Ala	Glu	Ile	Arg	Ala	Thr	530	535	540
Glu	Lys	Ala	Ser	Ile	Glu	Ile	Ser	Gly	Val	Pro	Arg	Val	Tyr	Gly	His	545	550	555
Thr	Glu	Ser	Phe	Tyr	Glu	Asn	His	Glu	Tyr	Ala	Ser	Lys	Pro	Tyr	Thr	565	570	575
Thr	Ser	Ile	Ile	Leu	Ser	Ala	Lys	Lys	Leu	Val	Thr	Ala	Pro	Ser	Arg	580	585	590
Pro	Glu	Lys	Asp	Ile	Gln	Asn	Leu	Ile	Ile	Ala	Glu	Ser	Glu	Tyr	Met	595	600	605
Gly	Tyr	Gly	Tyr	Gln	Gly	Ser	Trp	Glu	Phe	Ser	Trp	Ser	Pro	Asn	Asp	610	615	620
Thr	Lys	Glu	Lys	Lys	Thr	Ile	Ile	Ala	Ser	Trp	Thr	Pro	Thr	Gly	Glu	625	630	635
Phe	Ser	Leu	Asp	Pro	Lys	Arg	Arg	Gly	Ser	Phe	Ile	Pro	Thr	Thr	Leu	645	650	655
Trp	Ser	Thr	Phe	Ser	Gly	Leu	Asn	Ile	Ala	Ser	Asn	Ile	Val	Asn	Asn	660	665	670
Asn	Tyr	Leu	Asn	Asn	Ser	Glu	Val	Ile	Pro	Leu	Gln	His	Leu	Cys	Val	675	680	685
Phe	Gly	Gly	Pro	Val	Tyr	Gln	Ile	Met	Glu	Gln	Asn	Pro	Lys	Gln	Ser	690	695	700
Ser	Asn	Asn	Leu	Leu	Val	Gln	His	Ala	Gly	His	Asn	Val	Gly	Ala	Arg	705	710	715
Ile	Pro	Phe	Ser	Phe	Asn	Thr	Ile	Leu	Ser	Ala	Ala	Leu	Thr	Gln	Leu	725	730	735
Phe	Ser	Ser	Ser	Ser	Gln	Gln	Asn	Val	Ala	Asp	Lys	Ser	His	Ala	Gln	740	745	750
Ile	Leu	Ile	Gly	Thr	Val	Ser	Leu	Asn	Lys	Ser	Trp	Gln	Ala	Leu	Ser	755	760	765

Leu Arg Ser Ser Phe Ser Tyr Thr Glu Asp Ser Gln Val Met Lys His  
 770 775 780  
 Val Phe Pro Tyr Lys Gly Thr Ser Arg Gly Ser Trp Arg Asn Tyr Gly  
 785 790 795 800  
 Trp Ser Gly Ser Val Gly Met Ser Tyr Ala Tyr Pro Lys Gly Ile Arg  
 805 810 815  
 Tyr Leu Lys Met Thr Pro Phe Val Asp Leu Gln Tyr Thr Lys Leu Val  
 820 825 830  
 Gln Asn Pro Phe Val Glu Thr Gly Tyr Asp Pro Arg Tyr Phe Ser Ser  
 835 840 845  
 Ser Glu Met Thr Asn Leu Ser Leu Pro Ile Gly Ile Ala Leu Glu Met  
 850 855 860  
 Arg Phe Ile Gly Ser Arg Ser Ser Leu Phe Leu Gln Val Ser Thr Ser  
 865 870 875 880  
 Tyr Ile Lys Asp Leu Arg Arg Val Asn Pro Gln Ser Ser Ala Ser Leu  
 885 890 895  
 Val Leu Asn His Tyr Thr Trp Asp Ile Gln Gly Val Pro Leu Gly Lys  
 900 905 910  
 Glu Ala Leu Asn Ile Thr Leu Asn Ser Thr Ile Lys Tyr Lys Ile Val  
 915 920 925  
 Thr Ala Tyr Met Gly Ile Ser Ser Thr Gln Arg Glu Gly Ser Asn Leu  
 930 935 940  
 Ser Ala Asn Ala His Ala Gly Leu Ser Leu Ser Phe  
 945 950 955

<210> 542  
 <211> 1744  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 542  
 Phe Ile His Leu Ile Tyr Leu Ser Leu Ile Glu Phe Val Asn Ile Ser  
 1 5 10 15  
 Asp Arg Phe Ser Ser Met Lys Trp Leu Pro Ala Thr Ala Val Phe Ala  
 20 25 30  
 Ala Val Leu Pro Ala Leu Thr Ala Phe Gly Asp Pro Ala Ser Val Glu  
 35 40 45  
 Ile Ser Thr Ser His Thr Gly Ser Gly Asp Pro Thr Ser Asp Ala Ala  
 50 55 60  
 Leu Thr Gly Phe Thr Gln Ser Ser Thr Glu Thr Asp Gly Thr Thr Tyr  
 65 70 75 80  
 Thr Ile Val Gly Asp Ile Thr Phe Ser Thr Phe Thr Asn Ile Pro Val  
 85 90 95  
 Pro Val Val Thr Pro Asp Ala Asn Asp Ser Ser Ser Asn Ser Ser Lys  
 100 105 110  
 Gly Gly Ser Ser Ser Ser Gly Ala Thr Ser Leu Ile Arg Ser Ser Asn  
 115 120 125  
 Leu His Ser Asp Phe Asp Phe Thr Lys Asp Ser Val Leu Asp Leu Tyr  
 130 135 140  
 His Leu Phe Phe Pro Ser Ala Ser Asn Thr Leu Asn Pro Ala Leu Leu  
 145 150 155 160  
 Ser Ser Ser Ser Ser Gly Gly Ser Ser Ser Ser Ser Ser Ser Ser  
 165 170 175  
 Ser Gly Ser Ala Ser Ala Val Val Ala Ala Asp Pro Lys Gly Gly Ala  
 180 185 190  
 Ala Phe Tyr Ser Asn Glu Ala Asn Gly Thr Leu Thr Phe Thr Thr Asp  
 195 200 205  
 Ser Gly Asn Pro Gly Ser Leu Thr Leu Gln Asn Leu Lys Met Thr Gly  
 210 215 220  
 Asp Gly Ala Ala Ile Tyr Ser Lys Gly Pro Leu Val Phe Thr Gly Leu  
 225 230 235 240

Lys Asn Leu Thr Phe Thr Gly Asn Glu Ser Gln Lys Ser Gly Gly Ala  
 245 250 255  
 Ala Tyr Thr Glu Gly Ala Leu Thr Thr Gln Ala Ile Val Glu Ala Val  
 260 265 270  
 Thr Phe Thr Gly Asn Thr Ser Ala Gly Gln Gly Gly Ala Ile Tyr Val  
 275 280 285  
 Lys Glu Ala Thr Leu Phe Asn Ala Leu Asp Ser Leu Lys Phe Glu Lys  
 290 295 300  
 Asn Thr Ser Gly Gln Ala Gly Gly Gly Ile Tyr Thr Glu Ser Thr Leu  
 305 310 315 320  
 Thr Ile Ser Asn Ile Thr Lys Ser Ile Glu Phe Ile Ser Asn Lys Ala  
 325 330 335  
 Ser Val Pro Ala Pro Ala Pro Glu Pro Thr Ser Pro Ala Pro Ser Ser  
 340 345 350  
 Leu Ile Asn Ser Thr Thr Ile Asp Thr Ser Thr Leu Gln Thr Arg Ala  
 355 360 365  
 Ala Ser Ala Thr Pro Ala Val Ala Pro Val Ala Ala Val Thr Pro Thr  
 370 375 380  
 Pro Ile Ser Thr Gln Glu Thr Ala Gly Asn Gly Gly Ala Ile Tyr Ala  
 385 390 395 400  
 Lys Gln Gly Ile Ser Ile Ser Thr Phe Lys Asp Leu Thr Phe Lys Ser  
 405 410 415  
 Asn Ser Ala Ser Val Asp Ala Thr Leu Thr Val Asp Ser Ser Thr Ile  
 420 425 430  
 Gly Glu Ser Gly Gly Ala Ile Phe Ala Ala Asp Ser Ile Gln Ile Gln  
 435 440 445  
 Gln Cys Thr Gly Thr Thr Leu Phe Ser Gly Asn Thr Ala Asn Lys Ser  
 450 455 460  
 Gly Gly Gly Ile Tyr Ala Val Gly Gln Val Thr Leu Glu Asp Ile Ala  
 465 470 475 480  
 Asn Leu Lys Met Thr Asn Asn Thr Cys Lys Gly Glu Gly Gly Ala Ile  
 485 490 495  
 Tyr Thr Lys Lys Ala Leu Thr Ile Asn Asn Gly Ala Ile Leu Thr Thr  
 500 505 510  
 Phe Ser Gly Asn Thr Ser Thr Asp Asn Gly Gly Ala Ile Phe Ala Val  
 515 520 525  
 Gly Gly Ile Thr Leu Ser Asp Leu Val Glu Val Arg Phe Ser Lys Asn  
 530 535 540  
 Lys Thr Gly Asn Tyr Ser Ala Pro Ile Thr Lys Ala Ala Ser Asn Thr  
 545 550 555 560  
 Ala Pro Val Val Ser Ser Ser Thr Thr Ala Ala Ser Pro Ala Val Pro  
 565 570 575  
 Ala Ala Ala Ala Ala Pro Val Thr Asn Ala Ala Lys Gly Gly Ala Leu  
 580 585 590  
 Tyr Ser Thr Glu Gly Leu Thr Val Ser Gly Ile Thr Ser Ile Leu Ser  
 595 600 605  
 Phe Glu Asn Asn Glu Cys Gln Asn Gln Gly Gly Gly Ala Tyr Val Thr  
 610 615 620  
 Lys Thr Phe Gln Cys Ser Asp Ser His Arg Leu Gln Phe Thr Ser Asn  
 625 630 635 640  
 Lys Ala Ala Asp Glu Gly Gly Gly Leu Tyr Cys Gly Asp Asp Val Thr  
 645 650 655  
 Leu Thr Asn Leu Thr Gly Lys Thr Leu Phe Gln Glu Asn Ser Ser Glu  
 660 665 670  
 Lys His Gly Gly Gly Leu Ser Leu Ala Ser Gly Lys Ser Leu Thr Met  
 675 680 685  
 Thr Ser Leu Glu Ser Phe Cys Leu Asn Ala Asn Thr Ala Lys Glu Asn  
 690 695 700  
 Gly Gly Gly Ala Asn Val Pro Glu Asn Ile Val Leu Thr Phe Thr Tyr  
 705 710 715 720

Thr	Pro	Thr	Pro	Asn	Glu	Pro	Ala	Pro	Val	Gln	Gln	Pro	Val	Tyr	Gly		
				725					730					735			
Glu	Ala	Leu	Val	Thr	Gly	Asn	Thr	Ala	Thr	Lys	Ser	Gly	Gly	Gly	Ile		
			740					745					750				
Tyr	Thr	Lys	Asn	Ala	Ala	Phe	Ser	Asn	Leu	Ser	Ser	Val	Thr	Phe	Asp		
		755					760					765					
Gln	Asn	Thr	Ser	Ser	Glu	Asn	Gly	Gly	Ala	Leu	Leu	Thr	Gln	Lys	Ala		
		770				775						780					
Ala	Asp	Lys	Thr	Asp	Cys	Ser	Phe	Thr	Tyr	Ile	Thr	Asn	Val	Asn	Ile		
785					790					795					800		
Thr	Asn	Asn	Thr	Ala	Thr	Gly	Asn	Gly	Gly	Gly	Ile	Ala	Gly	Gly	Lys		
				805					810						815		
Ala	His	Phe	Asp	Arg	Ile	Asp	Asn	Leu	Thr	Val	Gln	Ser	Asn	Gln	Ala		
			820					825					830				
Lys	Lys	Gly	Gly	Gly	Val	Tyr	Leu	Glu	Asp	Ala	Leu	Ile	Leu	Glu	Lys		
		835					840					845					
Val	Ile	Thr	Gly	Ser	Val	Ser	Gln	Asn	Thr	Ala	Thr	Glu	Ser	Gly	Gly		
		850				855					860						
Gly	Ile	Tyr	Ala	Lys	Asp	Ile	Gln	Leu	Gln	Ala	Leu	Pro	Gly	Ser	Phe		
865					870					875					880		
Thr	Ile	Thr	Asp	Asn	Lys	Val	Glu	Thr	Ser	Leu	Thr	Thr	Ser	Thr	Asn		
			885						890						895		
Leu	Tyr	Gly	Gly	Gly	Ile	Tyr	Ser	Ser	Gly	Ala	Val	Thr	Leu	Thr	Asn		
			900					905						910			
Ile	Ser	Gly	Thr	Phe	Gly	Ile	Thr	Gly	Asn	Ser	Val	Ile	Asn	Thr	Ala		
		915					920					925					
Thr	Ser	Gln	Asp	Ala	Asp	Ile	Gln	Gly	Gly	Gly	Ile	Tyr	Ala	Thr	Thr		
		930				935					940						
Ser	Leu	Ser	Ile	Asn	Gln	Cys	Asn	Thr	Pro	Ile	Leu	Phe	Ser	Asn	Asn		
945					950					955					960		
Ser	Ala	Ala	Thr	Lys	Lys	Thr	Ser	Thr	Thr	Lys	Gln	Ile	Ala	Gly	Gly		
			965						970						975		
Ala	Ile	Phe	Ser	Ala	Ala	Val	Thr	Ile	Glu	Asn	Asn	Ser	Gln	Pro	Ile		
			980					985					990				
Ile	Phe	Leu	Asn	Asn	Ser	Ala	Lys	Ser	Glu	Ala	Thr	Thr	Ala	Ala	Thr		
		995					1000						1005				
Ala	Gly	Asn	Lys	Asp	Ser	Cys	Gly	Gly	Ala	Ile	Ala	Ala	Asn	Ser	Val		
		1010				1015					1020						
Thr	Leu	Thr	Asn	Asn	Pro	Glu	Ile	Thr	Phe	Lys	Gly	Asn	Tyr	Ala	Glu		
1025					1030					1035					1040		
Thr	Gly	Gly	Ala	Ile	Gly	Cys	Ile	Asp	Leu	Thr	Asn	Gly	Ser	Pro	Pro		
			1045						1050					1055			
Arg	Lys	Val	Ser	Ile	Ala	Asp	Asn	Gly	Ser	Val	Leu	Phe	Gln	Asp	Asn		
			1060					1065					1070				
Ser	Ala	Leu	Asn	Arg	Gly	Gly	Ala	Ile	Tyr	Gly	Glu	Thr	Ile	Asp	Ile		
		1075					1080					1085					
Ser	Arg	Thr	Gly	Ala	Thr	Phe	Ile	Gly	Asn	Ser	Ser	Lys	His	Asp	Gly		
		1090				1095					1100						
Ser	Ala	Ile	Cys	Cys	Ser	Thr	Ala	Leu	Thr	Leu	Ala	Pro	Asn	Ser	Gln		
1105					1110					1115					1120		
Leu	Ile	Phe	Glu	Asn	Asn	Lys	Val	Thr	Glu	Thr	Thr	Ala	Thr	Thr	Lys		
			1125						1130						1135		
Ala	Ser	Ile	Asn	Asn	Leu	Gly	Ala	Ala	Ile	Tyr	Gly	Asn	Asn	Glu	Thr		
			1140				1145					1150					
Ser	Asp	Val	Thr	Ile	Ser	Leu	Ser	Ala	Glu	Asn	Gly	Ser	Ile	Phe	Phe		
		1155					1160				1165						
Lys	Asn	Asn	Leu	Cys	Thr	Ala	Thr	Asn	Lys	Tyr	Cys	Ser	Ile	Ala	Gly		
		1170				1175					1180						
Asn	Val	Lys	Phe	Thr	Ala	Ile	Glu	Ala	Ser	Ala	Gly	Lys	Ala	Ile	Ser		
1185					1190					1195					1200		

Phe Tyr Asp Ala Val Asn Val Ser Thr Lys Glu Thr Asn Ala Gln Glu  
1205 1210 1215  
Leu Lys Leu Asn Glu Lys Ala Thr Ser Thr Gly Thr Ile Leu Phe Ser  
1220 1225 1230  
Gly Glu Leu His Glu Asn Lys Ser Tyr Ile Pro Gln Lys Val Thr Phe  
1235 1240 1245  
Ala His Gly Asn Leu Ile Leu Gly Lys Asn Ala Glu Leu Ser Val Val  
1250 1255 1260  
Ser Phe Thr Gln Ser Pro Gly Thr Thr Ile Thr Met Gly Pro Gly Ser  
1265 1270 1275 1280  
Val Leu Ser Asn His Ser Lys Glu Ala Gly Gly Ile Ala Ile Asn Asn  
1285 1290 1295  
Val Ile Ile Asp Phe Ser Glu Ile Val Pro Thr Lys Asp Asn Ala Thr  
1300 1305 1310  
Val Ala Pro Pro Thr Leu Lys Leu Val Ser Arg Thr Asn Ala Asp Ser  
1315 1320 1325  
Lys Asp Lys Ile Asp Ile Thr Gly Thr Val Thr Leu Leu Asp Pro Asn  
1330 1335 1340  
Gly Asn Leu Tyr Gln Asn Ser Tyr Leu Gly Glu Asp Arg Asp Ile Thr  
1345 1350 1355 1360  
Leu Phe Asn Ile Asp Asn Ser Ala Ser Gly Ala Val Thr Ala Thr Asn  
1365 1370 1375  
Val Thr Leu Gln Gly Asn Leu Gly Ala Lys Lys Gly Tyr Leu Gly Thr  
1380 1385 1390  
Trp Asn Leu Asp Pro Asn Ser Ser Gly Ser Lys Ile Ile Leu Lys Trp  
1395 1400 1405  
Thr Phe Asp Lys Tyr Leu Arg Trp Pro Tyr Ile Pro Arg Asp Asn His  
1410 1415 1420  
Phe Tyr Ile Asn Ser Ile Trp Gly Ala Gln Asn Ser Leu Val Thr Val  
1425 1430 1435 1440  
Lys Gln Gly Ile Leu Gly Asn Met Leu Asn Asn Ala Arg Phe Glu Asp  
1445 1450 1455  
Pro Ala Phe Asn Asn Phe Trp Ala Ser Ala Ile Gly Ser Phe Leu Arg  
1460 1465 1470  
Lys Glu Val Ser Arg Asn Ser Asp Ser Phe Thr Tyr His Gly Arg Gly  
1475 1480 1485  
Tyr Thr Ala Ala Val Asp Ala Lys Pro Arg Gln Glu Phe Ile Leu Gly  
1490 1495 1500  
Ala Ala Phe Ser Gln Val Phe Gly His Ala Glu Ser Glu Tyr His Leu  
1505 1510 1515 1520  
Asp Asn Tyr Lys His Lys Gly Ser Gly His Ser Thr Gln Ala Ser Leu  
1525 1530 1535  
Tyr Ala Gly Asn Ile Phe Tyr Phe Pro Ala Ile Arg Ser Arg Pro Ile  
1540 1545 1550  
Leu Phe Gln Gly Val Ala Thr Tyr Gly Tyr Met Gln His Asp Thr Thr  
1555 1560 1565  
Thr Tyr Tyr Pro Ser Ile Glu Lys Asn Met Ala Asn Trp Asp Ser  
1570 1575 1580  
Ile Ala Trp Leu Phe Asp Leu Arg Phe Ser Val Asp Leu Lys Glu Pro  
1585 1590 1595 1600  
Gln Pro His Ser Thr Ala Arg Leu Thr Phe Tyr Thr Glu Ala Glu Tyr  
1605 1610 1615  
Thr Arg Ile Arg Gln Glu Lys Phe Thr Glu Leu Asp Tyr Asp Pro Arg  
1620 1625 1630  
Ser Phe Ser Ala Cys Ser Tyr Gly Asn Leu Ala Ile Pro Thr Gly Phe  
1635 1640 1645  
Ser Val Asp Gly Ala Leu Ala Trp Arg Glu Ile Ile Leu Tyr Asn Lys  
1650 1655 1660  
Val Ser Ala Ala Tyr Leu Pro Val Ile Leu Arg Asn Asn Pro Lys Ala  
1665 1670 1675 1680

Thr Tyr Glu Val Leu Ser Thr Lys Glu Lys Gly Asn Val Val Asn Val  
 1685 1690 1695  
 Leu Pro Thr Arg Asn Ala Ala Arg Ala Glu Val Ser Ser Gln Ile Tyr  
 1700 1705 1710  
 Leu Gly Ser Tyr Trp Thr Leu Tyr Gly Thr Tyr Thr Ile Asp Ala Ser  
 1715 1720 1725  
 Met Asn Thr Leu Val Gln Met Ala Asn Gly Gly Ile Arg Phe Val Phe  
 1730 1735 1740

<210> 543  
 <211> 289  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 543  
 Asn Asn Arg Ser Ser Tyr Gln Thr Ala Phe Val Met His Lys Val Ile  
 1 5 10 15  
 Val Phe Ile Phe Leu Thr Leu Tyr Ser Leu Lys Ser Tyr Gly Asn Asp  
 20 25 30  
 Val Ile Asp Lys Pro His Val Leu Val Ser Ile Ala Pro Tyr Lys Phe  
 35 40 45  
 Leu Val Glu Gln Ile Ala Glu Glu Thr Cys Phe Val Tyr Ala Ile Val  
 50 55 60  
 Thr Asn His Tyr Asp Pro His Thr Tyr Glu Leu Pro Pro Gln Gln Ile  
 65 70 75 80  
 Lys Glu Leu Arg Gln Gly Asp Leu Trp Phe Arg Ile Gly Glu Ala Phe  
 85 90 95  
 Glu Lys Thr Cys Glu Arg Asn Leu Thr Cys Gln Gln Val Asp Leu Ser  
 100 105 110  
 Gln Asn Val Ser Leu Ile Gln Gly Lys Pro Cys Cys Asn Gln His Thr  
 115 120 125  
 Thr Asn Tyr Asp Thr His Thr Trp Leu Ser Pro Lys Asn Leu Lys Val  
 130 135 140  
 Gln Val Glu Thr Ile Val Thr Thr Leu Ser Lys Lys Tyr Pro Gln His  
 145 150 155 160  
 Ala Thr Leu Tyr Gln Ser Asn Gly Glu Lys Leu Leu Leu Ala Leu Asp  
 165 170 175  
 Gln Leu Asn Glu Glu Ile Leu Thr Ile Thr Ser Lys Ala Lys Gln Arg  
 180 185 190  
 His Ile Leu Val Ser His Gly Ala Phe Gly Tyr Phe Cys Arg Asp Tyr  
 195 200 205  
 Asn Phe Ser Gln His Thr Ile Glu Lys Ser Ser His Val Glu Pro Ser  
 210 215 220  
 Pro Lys Asp Val Ala Arg Val Phe Arg Asp Ile Glu Gln Tyr Lys Ile  
 225 230 235 240  
 Ser Ser Val Ile Leu Leu Glu Tyr Ser Gly Arg Arg Ser Ser Ala Met  
 245 250 255  
 Leu Ala Asp Arg Phe His Met His Thr Val Asn Leu Asp Pro Tyr Ala  
 260 265 270  
 Glu Asn Val Leu Val Asn Leu Lys Thr Ile Ala Thr Thr Phe Ser Ser  
 275 280 285  
 Leu

<210> 544  
 <211> 246  
 <212> PRT  
 <213> Chlamydia pneumoniae



<400> 544

Phe	Met	Thr	Ile	Arg	Ile	Leu	Ala	Glu	Gly	Leu	Ala	Phe	Arg	Tyr	Gly
1				5					10					15	
Ser	Lys	Gly	Pro	Asn	Ile	Ile	His	Asp	Val	Ser	Phe	Ser	Val	Tyr	Asp
			20					25					30		
Gly	Asp	Phe	Ile	Gly	Ile	Ile	Gly	Pro	Asn	Gly	Gly	Gly	Lys	Ser	Thr
	35						40					45			
Leu	Thr	Met	Leu	Ile	Leu	Gly	Leu	Leu	Thr	Pro	Thr	Phe	Gly	Ser	Leu
	50					55					60				
Lys	Thr	Phe	Pro	Ser	His	Ser	Ala	Gly	Lys	Gln	Thr	His	Ser	Met	Ile
65					70					75					80
Gly	Trp	Val	Pro	Gln	His	Phe	Ser	Tyr	Asp	Pro	Cys	Phe	Pro	Ile	Ser
				85					90					95	
Val	Lys	Asp	Val	Val	Leu	Ser	Gly	Arg	Leu	Ser	Gln	Leu	Ser	Trp	His
			100					105					110		
Gly	Lys	Tyr	Lys	Lys	Lys	Asp	Phe	Glu	Ala	Val	Asp	His	Ala	Leu	Asp
		115					120					125			
Leu	Val	Gly	Leu	Ser	Asp	His	His	His	His	Cys	Phe	Ala	His	Leu	Ser
	130					135					140				
Gly	Gly	Gln	Ile	Gln	Arg	Val	Leu	Leu	Ala	Arg	Ala	Leu	Ala	Ser	Tyr
145					150					155					160
Pro	Glu	Ile	Leu	Ile	Leu	Asp	Glu	Pro	Thr	Thr	Asn	Ile	Asp	Pro	Asp
				165					170					175	
Asn	Gln	Gln	Arg	Ile	Leu	Ser	Ile	Leu	Lys	Lys	Leu	Asn	Arg	Thr	Cys
			180					185					190		
Thr	Ile	Leu	Met	Val	Thr	His	Asp	Leu	His	His	Thr	Thr	Asn	Tyr	Phe
	195						200					205			
Asn	Lys	Val	Phe	Tyr	Met	Asn	Lys	Thr	Leu	Thr	Ser	Leu	Ala	Asp	Thr
	210					215					220				
Ser	Thr	Leu	Thr	Asp	Gln	Phe	Cys	Cys	His	Pro	Tyr	Lys	Asn	Gln	Glu
225					230					235					240
Phe	Ser	Cys	Ser	Pro	His										
				245											

<210> 545

<211> 298

<212> PRT

<213> Chlamydia pneumoniae

<400> 545

Lys	Ser	Gly	Ile	Phe	Met	Leu	Ser	Ser	Leu	Ile	Arg	Asp	Ser	Phe	Pro
1				5					10					15	
Leu	Leu	Ile	Leu	Leu	Pro	Thr	Phe	Leu	Ala	Ala	Leu	Gly	Ala	Ser	Val
			20					25					30		
Ala	Gly	Gly	Val	Met	Gly	Thr	Tyr	Ile	Val	Val	Lys	Arg	Ile	Val	Ser
	35						40					45			
Ile	Ser	Gly	Ser	Ile	Ser	His	Ala	Ile	Leu	Gly	Gly	Ile	Gly	Leu	Thr
	50					55				60					
Leu	Trp	Ile	Gln	Tyr	Lys	Leu	His	Leu	Ser	Phe	Phe	Pro	Met	Tyr	Gly
65					70					75					80
Ala	Ile	Val	Gly	Ala	Ile	Phe	Leu	Ala	Leu	Cys	Ile	Gly	Lys	Ile	His
				85					90					95	
Leu	Lys	Tyr	Gln	Glu	Arg	Glu	Asp	Ser	Leu	Ile	Ala	Met	Ile	Trp	Ser
			100					105					110		
Val	Gly	Met	Ala	Ile	Gly	Ile	Ile	Phe	Ile	Ser	Arg	Leu	Pro	Thr	Phe
		115					120					125			
Asn	Gly	Glu	Leu	Ile	Asn	Phe	Leu	Phe	Gly	Asn	Ile	Leu	Trp	Val	Thr
	130					135					140				
Pro	Ser	Asp	Leu	Tyr	Ser	Leu	Gly	Ile	Phe	Asp	Leu	Leu	Val	Leu	Gly
145					150					155					160

Ile Val Val Leu Cys His Thr Arg Phe Leu Ala Leu Cys Phe Asp Glu  
 165 170 175  
 Arg Tyr Thr Ala Leu Asn His Cys Ser Val Gln Leu Trp Tyr Phe Leu  
 180 185 190  
 Leu Leu Val Leu Thr Ala Ile Thr Ile Val Met Leu Ile Tyr Val Met  
 195 200 205  
 Gly Thr Ile Leu Met Leu Ser Met Leu Val Leu Pro Val Ala Ile Ala  
 210 215 220  
 Cys Arg Phe Ser Tyr Lys Met Thr Arg Ile Met Phe Ile Ser Val Leu  
 225 230 235 240  
 Leu Asn Ile Leu Cys Ser Phe Ser Gly Ile Cys Ile Ala Tyr Cys Leu  
 245 250 255  
 Asp Phe Pro Val Gly Pro Thr Ile Ser Leu Leu Met Gly Leu Gly Tyr  
 260 265 270  
 Thr Ala Ser Leu Cys Val Lys Lys Arg Tyr Asn Pro Ser Thr Pro Ser  
 275 280 285  
 Pro Val Ser Pro Glu Ile Asn Thr Asn Val  
 290 295

<210> 546  
 <211> 358  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 546  
 Lys Ser Ser Val Phe Cys Ser Gly Ile Lys Ser Ser Phe Phe Cys Leu  
 1 5 10 15  
 Lys Lys Asp Lys Asn Val Ile Met Phe Val Asp Gln Ile Thr Leu Glu  
 20 25 30  
 Leu Arg Ala Gly Lys Gly Gly Asn Gly Val Val Ala Trp Arg Lys Glu  
 35 40 45  
 Lys Tyr Leu Pro Lys Gly Gly Pro Tyr Gly Gly Asn Gly Gly Asn Gly  
 50 55 60  
 Gly Ser Val Ile Ile Glu Ala Thr Thr Ser Val Tyr Ser Phe Glu Ala  
 65 70 75 80  
 Tyr Arg Asn Ile Arg Phe Leu Lys Ala Pro Asp Gly Gln Ser Gly Ala  
 85 90 95  
 Thr Asn Asn Arg Thr Gly Arg Ser Gly Lys Asp Leu Ile Val Ser Val  
 100 105 110  
 Pro Thr Gly Thr Leu Leu Arg Asp Ala Glu Thr Gly Glu Ile Leu His  
 115 120 125  
 Asp Phe Thr Val Asp Gly Glu Arg Leu Leu Val Ser Gln Gly Gly Lys  
 130 135 140  
 Gly Gly Lys Gly Asn Thr Phe Phe Lys Thr Ser Val Asn Arg Ala Pro  
 145 150 155 160  
 Thr Lys Ala Thr Pro Gly Lys Pro Gly Glu Ile Arg Gln Val Glu Leu  
 165 170 175  
 Glu Leu Lys Leu Ile Ala Asp Ile Gly Leu Val Gly Phe Pro Asn Ala  
 180 185 190  
 Gly Lys Ser Thr Leu Phe Asn Thr Leu Ala His Thr Glu Val Lys Val  
 195 200 205  
 Gly Ala Tyr Pro Phe Thr Thr Leu Ala Pro Ser Leu Gly Leu Val Leu  
 210 215 220  
 Cys Lys Asp Arg Leu Tyr Gln Lys Pro Trp Ile Ile Ala Asp Ile Pro  
 225 230 235 240  
 Gly Ile Ile Glu Gly Ala His Gln Asn Lys Gly Leu Gly Leu Asp Phe  
 245 250 255  
 Leu Arg His Ile Glu Arg Thr Leu Leu Leu Phe Val Ile Asp Val  
 260 265 270  
 Ser Lys Arg Glu Arg Asn Ser Pro Glu Glu Asp Leu Glu Thr Leu Ile  
 275 280 285

His Glu Leu His Ser His Gln Pro Asp Phe Glu Lys Lys Asp Met Leu  
 290 295 300  
 Val Ala Leu Asn Lys Ile Asp Asp Leu Leu Pro Asp Glu Gln Glu Glu  
 305 310 315 320  
 Cys Leu Gln Ser Phe Gln Lys Arg Phe Pro Ser Tyr Thr Phe Val Leu  
 325 330 335  
 Ile Ser Gly Leu Thr Gly Glu Gly Val Asp Gly Leu Tyr Arg Phe Phe  
 340 345 350  
 Thr Gln Arg Leu Ala Val  
 355

<210> 547  
 <211> 92  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 547  
 Thr Glu Ala Arg Glu Phe Arg Val Met Ala His Lys Lys Gly Gln Gly  
 1 5 10 15  
 Ala Ser Arg Asn Gly Arg Asp Ser Lys Ser Lys Arg Leu Gly Val Lys  
 20 25 30  
 Val Gly Ala Gly Gln Lys Val Ser Thr Gly Ser Ile Leu Val Arg Gln  
 35 40 45  
 Arg Gly Thr Arg Trp Asn Pro Ala Gln Asn Val Gly Arg Gly Arg Asp  
 50 55 60  
 Asp Thr Leu Phe Ala Leu Val Asp Gly Ile Val Val Met Lys Lys Thr  
 65 70 75 80  
 Asn Arg Thr Tyr Ile Ser Val Val Pro Glu Gln Leu  
 85 90

<210> 548  
 <211> 124  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 548  
 Leu Ser Lys Gln Arg Leu Thr Leu Ser Ile Glu Arg Phe Ile Arg Lys  
 1 5 10 15  
 Lys Leu Met Glu Pro Tyr Ala Val Ile Gln Thr Gly Ser Lys Gln Tyr  
 20 25 30  
 Gln Val Arg Ser Gly Asp Val Ile Asp Val Glu Leu Leu Gly Glu Val  
 35 40 45  
 Ala Ser Asp Lys Glu Val Ile Phe Gln Asp Val Leu Phe Val Phe Asp  
 50 55 60  
 Gly Thr Lys Ala Ser Leu Gly Ser Pro Thr Ile Ala Asn Ala Gln Val  
 65 70 75 80  
 Lys Ala Glu Tyr Leu Ser His Val Lys Gly Glu Lys Val Val Ala Tyr  
 85 90 95  
 Lys Tyr Lys Lys Arg Lys Asn Tyr His Arg Lys His Gly His Arg Gln  
 100 105 110  
 Lys Tyr Leu Arg Val Lys Ile Arg Glu Ile Leu Ile  
 115 120

<210> 549  
 <211> 200  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 549  
 Cys Val Asn Phe Arg Asn Phe Val Val Ser Ser Val Lys Glu Ile Leu  
 1 5 10 15

Lys	Lys	Asn	Ile	Tyr	Gln	Val	Val	Met	Asp	Arg	Asp	Asn	Glu	Val	Pro
		20						25					30		
Leu	Pro	Lys	Pro	Lys	Trp	Ile	Tyr	Arg	Thr	Gly	Ile	Gly	Gln	Asp	Ser
		35					40					45			
His	Arg	Phe	Leu	Pro	Glu	Ser	Ser	Thr	Lys	Pro	Cys	Ile	Leu	Gly	Gly
	50					55					60				
Ile	Ile	Phe	Asp	His	Cys	Pro	Gly	Phe	Gln	Ala	Asn	Ser	Asp	Gly	Asp
65					70					75				80	
Ile	Ile	Phe	His	Ala	Ile	Cys	Asn	Ala	Ile	Ser	Ser	Val	Thr	Asn	Lys
			85						90					95	
Ile	Ile	Leu	Gly	Lys	Val	Ala	Asp	Glu	Leu	Leu	Gln	Thr	Arg	Gly	Ile
		100						105					110		
Thr	Asp	Ser	Gly	Ile	Tyr	Leu	Glu	Glu	Ala	Leu	Lys	Ser	Leu	Lys	Pro
		115					120					125			
Asn	Gln	Lys	Ile	Ser	His	Val	Ala	Ile	Thr	Ile	Glu	Gly	Ser	Arg	Pro
	130					135					140				
Lys	Phe	Leu	Cys	Lys	Leu	Ser	Ala	Leu	Arg	Gln	Asn	Ile	Ala	Gln	Val
145					150					155				160	
Met	Asn	Leu	Thr	Pro	Thr	Asp	Ile	Gly	Ile	Thr	Ala	Thr	Ser	Gly	Glu
			165						170					175	
Gly	Leu	Ser	Asp	Phe	Gly	Cys	Gly	Asp	Gly	Val	Gln	Cys	Phe	Cys	Val
		180						185					190		
Leu	Thr	Val	Met	Glu	Tyr	Cys	Asp								
		195					200								

<210> 550

<211> 348

<212> PRT

<213> Chlamydia pneumoniae

<400> 550

Lys	Met	Tyr	Leu	Gln	Glu	Lys	Phe	Lys	Ala	Gln	Gln	Val	Pro	Leu	Val
1				5					10					15	
Leu	Arg	Glu	Leu	Leu	Ser	Cys	Ser	Asp	Ser	Ile	Asn	Asp	Ser	Asp	Pro
			20					25					30		
Ile	Tyr	Arg	Met	Val	Phe	Asp	Ser	Asn	Asp	Thr	Thr	Ile	Ser	Tyr	Lys
	35						40					45			
Val	Gly	Asp	Ala	Leu	Gly	Val	Leu	Pro	Glu	Asn	Ser	Lys	Glu	Val	Ser
	50					55					60				
Glu	His	Val	Leu	Gln	Leu	Leu	Gly	Tyr	Ser	Pro	Thr	Thr	Leu	Val	Asn
65					70					75				80	
Val	Lys	Lys	Thr	Ser	Glu	Lys	Val	Ser	Ala	Gln	Lys	Phe	Ile	Gln	Gly
			85						90					95	
Tyr	Val	Asp	Leu	Asp	Lys	Ile	Pro	Ala	Lys	Leu	Asn	Ser	Phe	Phe	Pro
			100					105					110		
Asp	Lys	Asp	Pro	Lys	Ile	Thr	Leu	Tyr	Asp	Ala	Ile	Gln	Glu	Tyr	Arg
		115					120					125			
Pro	Gln	Ile	Pro	Ile	Glu	Leu	Phe	Ala	Glu	Ser	Val	Phe	Pro	Leu	Leu
	130					135					140				
Pro	Arg	Phe	Tyr	Ser	Ile	Ala	Ser	Ser	Pro	Asp	Leu	His	Pro	Lys	Ser
145					150					155				160	
Ile	Glu	Leu	Leu	Val	Lys	His	Val	Ser	Tyr	Pro	Gly	Lys	Tyr	Gln	Lys
			165						170					175	
Arg	Phe	Gly	Val	Cys	Ser	Ser	Phe	Leu	Cys	Ser	Glu	Leu	Gln	Val	Asn
			180					185					190		
Asp	Ser	Ala	Tyr	Ile	Phe	Val	Gln	Pro	Thr	Lys	His	Phe	Thr	Leu	Ser
		195					200					205			
Thr	Gln	Thr	Glu	Gly	Lys	Pro	Leu	Val	Met	Ile	Gly	Ala	Gly	Thr	Gly
	210					215					220				
Ile	Ala	Pro	Tyr	Lys	Ala	Phe	Leu	Glu	Glu	Arg	Leu	Phe	Asn	Lys	Asp
225					230					235					240



814

Met	Ala	Phe	Lys	Ile	Cys	Gly	Ser	Met	Ala	Val	Lys	Asp	Ala	Cys	Arg
	595						600					605			
Lys	Ala	Lys	Pro	Val	Ile	Leu	Glu	Pro	Ile	Met	Lys	Val	Ala	Val	Ile
	610					615					620				
Thr	Pro	Glu	Asp	His	Leu	Gly	Asp	Val	Ile	Gly	Asp	Leu	Asn	Arg	Arg
625					630					635				640	
Arg	Gly	Lys	Ile	Leu	Gly	Gln	Glu	Ser	Ser	Arg	Gly	Met	Ala	Gln	Val
			645					650						655	
Asn	Ala	Glu	Val	Pro	Leu	Ser	Glu	Met	Phe	Gly	Tyr	Thr	Thr	Ser	Leu
		660						665					670		
Arg	Ser	Leu	Thr	Ser	Gly	Arg	Ala	Thr	Ser	Thr	Met	Glu	Pro	Ala	Phe
	675					680					685				
Phe	Ala	Lys	Val	Pro	Gln	Lys	Ile	Gln	Glu	Glu	Ile	Val	Lys	Lys	
690					695						700				

<210> 553  
 <211> 159  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 553															
Met	Tyr	Met	Ser	Arg	Arg	His	Ser	Ala	Glu	Lys	Arg	Asp	Ile	Pro	Gly
1			5						10					15	
Asp	Pro	Ile	Tyr	Gly	Ser	Val	Ile	Leu	Glu	Lys	Phe	Ile	Asn	Lys	Val
		20						25					30		
Met	Met	His	Gly	Lys	Lys	Ser	Val	Ala	Arg	Lys	Ile	Val	Tyr	Ser	Ala
	35					40						45			
Leu	Glu	Arg	Phe	Gly	Lys	Lys	Leu	Asn	Leu	Glu	Asn	Val	Leu	Glu	Gly
	50				55					60					
Phe	Gly	Glu	Ala	Leu	Glu	Asn	Ala	Lys	Pro	Ile	Leu	Glu	Val	Arg	Ser
65				70					75					80	
Arg	Arg	Val	Gly	Gly	Ala	Thr	Tyr	Gln	Val	Pro	Val	Glu	Val	Ala	Ser
			85					90						95	
Glu	Arg	Arg	Asn	Cys	Leu	Ala	Met	Gln	Trp	Ile	Ile	Lys	His	Ala	Arg
			100					105					110		
Ser	Lys	Pro	Gly	Lys	Ser	Met	Glu	Val	Gly	Leu	Ala	Thr	Glu	Leu	Ile
		115				120						125			
Asp	Cys	Phe	Asn	Lys	Gln	Gly	Ala	Thr	Ile	Lys	Lys	Arg	Glu	Asp	Thr
	130				135					140					
His	Arg	Met	Ala	Glu	Ala	Asn	Lys	Ala	Phe	Ala	His	Tyr	Lys	Trp	
145					150					155					

<210> 554  
 <211> 160  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 554															
Ile	Gln	Ala	Gly	Tyr	Val	Pro	Ser	Ser	Ser	Glu	Asn	Lys	Pro	Leu	Pro
1			5						10					15	
Thr	Lys	Arg	Ala	Leu	Leu	Tyr	Ile	Ser	Met	Leu	Val	Val	Val	Arg	Leu
		20						25					30		
Lys	Arg	Glu	Gly	Tyr	Met	Pro	Thr	Ile	Asn	Gln	Leu	Ile	Arg	Lys	Arg
	35					40						45			
Arg	Lys	Ser	Ser	Leu	Ala	Arg	Lys	Lys	Ser	Pro	Ala	Leu	Gln	Lys	Cys
	50				55					60					
Pro	Gln	Lys	Arg	Gly	Val	Cys	Leu	Gln	Val	Lys	Thr	Lys	Thr	Pro	Lys
65				70					75					80	
Lys	Pro	Asn	Ser	Ala	Leu	Arg	Lys	Val	Ala	Trp	Val	Arg	Leu	Ser	Asn
			85					90						95	

Gly	Gln	Glu	Val	Ile	Ala	Tyr	Ile	Gly	Gly	Glu	Gly	His	Asn	Leu	Gln
			100					105					110		
Glu	His	Ser	Ile	Val	Leu	Ile	Gln	Gly	Gly	Arg	Val	Lys	Asp	Leu	Pro
		115					120					125			
Gly	Val	Arg	Tyr	His	Ile	Val	Arg	Gly	Thr	Leu	Asp	Cys	Ala	Ala	Val
	130					135				140					
Lys	Asn	Arg	Lys	Gln	Ser	Arg	Ser	Arg	Tyr	Gly	Ala	Lys	Arg	Pro	Lys
145					150					155					160

<210> 555  
 <211> 314  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 555															
Gly	Cys	Met	Trp	Arg	Val	Val	Leu	Arg	Phe	Leu	Ile	Ile	Phe	Ile	Leu
1				5					10					15	
Gly	Arg	Ala	Val	Phe	Pro	Leu	Arg	Ala	Ser	Glu	Ser	Phe	Ser	Trp	Glu
			20					25					30		
Thr	Ser	Thr	Cys	Leu	Thr	Val	Leu	Gly	Ile	Pro	Phe	Ile	Asp	Ile	Ile
		35					40					45			
Leu	Thr	Thr	Asn	Glu	Asp	Phe	Val	Ala	Gln	Cys	Gly	Leu	Gln	Ile	Gly
	50					55					60				
Thr	Ile	Ser	Ser	Thr	Asn	Asn	Ala	Lys	Ile	Lys	Glu	Ile	Phe	Leu	Ile
65					70					75					80
Tyr	Lys	Glu	Lys	Phe	Pro	Glu	Ala	Ser	Ile	Ser	Phe	Lys	Arg	Lys	Glu
				85					90					95	
Pro	Leu	Asn	Leu	Ser	Gln	Ser	His	Leu	Ser	Asp	Leu	Gly	Ile	Leu	Cys
			100					105					110		
Met	Arg	Asn	Gly	Glu	Thr	Tyr	Ala	Glu	Gly	Met	Ala	Asn	Lys	Glu	Asn
		115					120					125			
Gly	Pro	Ala	Leu	Lys	Gln	Pro	Lys	Asp	Leu	Arg	Leu	Val	Leu	Arg	Cys
	130					135				140					
Pro	Asn	Gln	Pro	Asp	Thr	Leu	Leu	Tyr	Ser	Glu	Lys	Glu	Ala	Glu	Lys
145					150					155					160
Gly	Ile	Glu	Thr	Asn	Thr	Cys	Leu	Cys	Asn	Gln	Gly	Tyr	Thr	Leu	Leu
				165					170					175	
Asp	Gly	Gln	Leu	Ile	Leu	Tyr	Gly	Asp	Ser	Ile	Glu	Lys	Phe	Leu	Lys
			180					185					190		
Glu	Thr	Lys	Arg	Lys	Asn	Asn	His	Thr	Leu	Val	Asp	Leu	Cys	Asp	Ser
		195					200					205			
Gln	Val	Val	Thr	Thr	Phe	Leu	Gly	Arg	Phe	Trp	Ser	Leu	Leu	Asn	Tyr
	210					215					220				
Val	Gln	Val	Leu	Phe	Leu	Ser	Glu	Asp	Ser	Ala	Lys	Ile	Leu	Ala	Gly
225					230					235					240
Ile	Pro	Asp	Leu	Ala	Gln	Ala	Thr	Gln	Leu	Leu	Ser	His	Thr	Val	Pro
				245					250					255	
Leu	Leu	Phe	Ile	Tyr	Thr	Asn	Asp	Ser	Ile	His	Ile	Ile	Glu	Gln	Gly
			260					265					270		
Lys	Glu	Ser	Ser	Phe	Thr	Tyr	Asn	Gln	Asp	Leu	Thr	Glu	Pro	Ile	Leu
		275					280					285			
Gly	Phe	Leu	Phe	Gly	Tyr	Ile	Asn	Arg	Gly	Ser	Met	Glu	Tyr	Cys	Phe
	290					295					300				
Asn	Cys	Ala	Gln	Ser	Ser	Leu	Gly	Glu	Thr						
305						310									

<210> 556  
 <211> 112  
 <212> PRT  
 <213> Chlamydia pneumoniae



<400> 556

Val	Phe	Ser	Tyr	Leu	Leu	Leu	Cys	Ile	Ile	Leu	Val	Tyr	Val	Arg	Phe
1				5					10					15	
Met	Tyr	Glu	Gly	Lys	Ser	Arg	Met	Ala	Ser	Pro	Thr	Pro	Gly	Gln	Leu
			20					25					30		
His	Leu	Gln	Gln	Lys	Val	Glu	Ser	Lys	Ala	Tyr	Asp	Tyr	Ser	Arg	Ser
	35						40					45			
Leu	Ala	Met	Ile	Ala	Thr	Ala	Leu	Leu	Phe	Phe	Ile	Val	Ala	Leu	Ile
	50					55					60				
Leu	Ser	Gly	Leu	Ser	Leu	Leu	Pro	Gln	Val	Phe	Leu	Pro	Phe	Ser	Gly
65					70					75					80
Ala	Tyr	Phe	Ile	Ile	Gly	Ser	Phe	Leu	Ala	Phe	Ile	Ala	Leu	Gly	Ile
				85					90					95	
Leu	Leu	Ile	Asn	Cys	Val	Cys	Asp	Leu	Lys	Gln	Tyr	Leu	Thr	Ser	Ser
			100					105						110	

<210> 557

<211> 648

<212> PRT

<213> Chlamydia pneumoniae

<400> 557

Met	Phe	Val	Met	Lys	Lys	Leu	Val	Arg	Leu	Cys	Val	Val	Leu	Leu	Ser
1				5					10					15	
Leu	Leu	Pro	Asn	Val	Leu	Phe	Ser	Ser	Asp	Leu	Leu	Arg	Glu	Glu	Gly
			20					25					30		
Ile	Lys	Lys	Met	Met	Asp	Lys	Leu	Ile	Glu	Tyr	His	Val	Asp	Ala	Gln
	35						40					45			
Glu	Val	Ser	Thr	Asp	Ile	Leu	Ser	Arg	Ser	Leu	Ser	Ser	Tyr	Ile	Gln
	50					55					60				
Ser	Phe	Asp	Pro	His	Lys	Ser	Tyr	Leu	Ser	Asn	Gln	Glu	Val	Ala	Val
65					70					75					80
Phe	Leu	Gln	Ser	Pro	Glu	Thr	Lys	Lys	Arg	Leu	Leu	Lys	Asn	Tyr	Lys
				85					90					95	
Ala	Gly	Asn	Phe	Ala	Ile	Tyr	Arg	Asn	Ile	Asn	Gln	Leu	Ile	His	Glu
			100					105					110		
Ser	Ile	Leu	Arg	Ala	Arg	Gln	Trp	Arg	Asn	Glu	Trp	Val	Lys	Asn	Pro
	115						120					125			
Lys	Glu	Leu	Val	Leu	Glu	Ala	Ser	Ser	Tyr	Gln	Ile	Ser	Lys	Gln	Pro
	130					135					140				
Met	Gln	Trp	Ser	Lys	Ser	Leu	Asp	Glu	Val	Lys	Gln	Arg	Gln	Arg	Ala
145					150					155					160
Leu	Leu	Leu	Ser	Tyr	Leu	Ser	Leu	His	Leu	Ala	Gly	Ala	Ser	Ser	Ser
				165					170					175	
Arg	Tyr	Glu	Gly	Lys	Glu	Glu	Gln	Leu	Ala	Ala	Leu	Cys	Leu	Arg	Gln
			180					185					190		
Ile	Glu	Asn	His	Glu	Asn	Val	Tyr	Leu	Gly	Ile	Asn	Asp	His	Gly	Val
	195						200					205			
Ala	Met	Asp	Arg	Asp	Glu	Glu	Ala	Tyr	Gln	Phe	His	Ile	Arg	Val	Val
	210					215					220				
Lys	Ala	Leu	Ala	His	Ser	Leu	Asp	Ala	His	Thr	Ala	Tyr	Phe	Ser	Lys
225					230					235					240
Asp	Glu	Ala	Leu	Ala	Met	Arg	Ile	Gln	Leu	Glu	Lys	Gly	Met	Cys	Gly
				245					250					255	
Ile	Gly	Val	Val	Leu	Lys	Glu	Asp	Ile	Asp	Gly	Val	Val	Val	Arg	Glu
			260					265					270		
Ile	Ile	Pro	Gly	Gly	Pro	Ala	Ala	Lys	Ser	Gly	Asp	Leu	Gln	Leu	Gly
	275					280						285			
Asp	Ile	Ile	Tyr	Arg	Val	Asp	Gly	Lys	Asp	Ile	Glu	His	Leu	Ser	Phe
	290					295					300				

Arg	Gly	Val	Leu	Asp	Cys	Leu	Arg	Gly	Gly	His	Gly	Ser	Thr	Val	Val	305	310	315	320
Leu	Asp	Ile	His	Arg	Gly	Glu	Ser	Asp	His	Thr	Ile	Ala	Leu	Arg	Arg	325	330	335	
Glu	Lys	Ile	Leu	Leu	Glu	Asp	Arg	Arg	Val	Asp	Val	Ser	Tyr	Glu	Pro	340	345	350	
Tyr	Gly	Asp	Gly	Val	Ile	Gly	Lys	Val	Thr	Leu	His	Ser	Phe	Tyr	Glu	355	360	365	
Gly	Glu	Asn	Gln	Val	Ser	Ser	Glu	Gln	Asp	Leu	Arg	Arg	Ala	Ile	Gln	370	375	380	
Gly	Leu	Lys	Glu	Lys	Asn	Leu	Leu	Gly	Leu	Val	Leu	Asp	Ile	Arg	Glu	385	390	395	400
Asn	Thr	Gly	Gly	Phe	Leu	Ser	Gln	Ala	Ile	Lys	Val	Ser	Gly	Leu	Phe	405	410	415	
Met	Thr	Asn	Gly	Val	Val	Val	Val	Ser	Arg	Tyr	Ala	Asp	Gly	Thr	Met	420	425	430	
Lys	Cys	Tyr	Arg	Thr	Val	Ser	Pro	Lys	Lys	Phe	Tyr	Asp	Gly	Pro	Leu	435	440	445	
Ala	Ile	Leu	Val	Ser	Lys	Ser	Ala	Ser	Ala	Ala	Glu	Ile	Val	Ala		450	455	460	
Gln	Thr	Leu	Gln	Asp	Tyr	Gly	Val	Ala	Leu	Val	Val	Gly	Asp	Glu	Gln	465	470	475	480
Thr	Tyr	Gly	Lys	Gly	Thr	Ile	Gln	His	Gln	Thr	Ile	Thr	Gly	Asp	Ala	485	490	495	
Ser	Gln	Asp	Asp	Cys	Phe	Lys	Val	Thr	Val	Gly	Lys	Tyr	Tyr	Ser	Pro	500	505	510	
Ser	Gly	Lys	Ser	Thr	Gln	Leu	Gln	Gly	Val	Lys	Ser	Asp	Ile	Leu	Ile	515	520	525	
Pro	Ser	Leu	Tyr	Ala	Glu	Asp	Arg	Leu	Gly	Glu	Arg	Phe	Leu	Glu	His	530	535	540	
Pro	Leu	Pro	Ala	Asp	Cys	Cys	Asp	Asn	Val	Leu	His	Asp	Pro	Leu	Thr	545	550	555	560
Asp	Leu	Asp	Thr	Gln	Thr	Arg	Pro	Trp	Phe	Gln	Lys	Tyr	Tyr	Leu	Pro	565	570	575	
Asn	Leu	Gln	Lys	Gln	Glu	Thr	Leu	Trp	Arg	Glu	Met	Leu	Pro	Gln	Leu	580	585	590	
Thr	Lys	Asn	Ser	Glu	Gln	Arg	Leu	Ser	Glu	Asn	Ser	Asn	Phe	Gln	Ala	595	600	605	
Phe	Leu	Ser	Gln	Ile	Lys	Ser	Ser	Glu	Lys	Thr	Asp	Leu	Ser	Tyr	Gly	610	615	620	
Ser	Asn	Asp	Leu	Gln	Leu	Glu	Glu	Ser	Ile	Asn	Ile	Leu	Lys	Asp	Met	625	630	635	640
Ile	Leu	Leu	Gln	Gln	Cys	Arg	Lys									645			

<210> 558  
 <211> 199  
 <212> PRT  
 <213> Chlamydia pneumoniae

Glu	Asn	Gly	Met	Ser	Ser	Asn	Leu	His	Pro	Val	Gly	Gly	Thr	Gly	Thr	<400> 558
1				5					10					15		
Gly	Ala	Ala	Ala	Pro	Glu	Ser	Val	Leu	Asn	Ile	Val	Glu	Glu	Ile	Ala	20
								25					30			
Ala	Ser	Gly	Ser	Val	Thr	Ala	Gly	Leu	Gln	Ala	Ile	Thr	Ser	Ser	Pro	35
							40					45				
Gly	Met	Val	Asn	Leu	Leu	Ile	Gly	Trp	Ala	Lys	Thr	Lys	Phe	Ile	Gln	50
						55					60					
Pro	Ile	Arg	Glu	Ser	Lys	Leu	Phe	Gln	Ser	Arg	Ala	Cys	Gln	Ile	Thr	65
					70					75					80	

Leu	Leu	Val	Leu	Gly	Ile	Leu	Leu	Val	Val	Ala	Gly	Leu	Ala	Cys	Met	
				85					90					95		
Phe	Ile	Phe	His	Ser	Gln	Leu	Gly	Ala	Asn	Ala	Phe	Trp	Leu	Ile	Ile	
			100					105					110			
Pro	Ala	Ala	Ile	Gly	Leu	Ile	Lys	Leu	Leu	Val	Thr	Ser	Leu	Cys	Phe	
		115					120					125				
Asp	Glu	Ala	Cys	Thr	Ser	Glu	Lys	Leu	Met	Val	Phe	Gln	Lys	Trp	Ala	
	130					135					140					
Gly	Val	Leu	Glu	Asp	Gln	Leu	Asp	Asp	Gly	Ile	Leu	Asn	Asn	Ser	Asn	
145					150					155					160	
Lys	Ile	Phe	Gly	His	Val	Lys	Thr	Glu	Gly	Asn	Thr	Ser	Arg	Ala	Thr	
				165					170					175		
Thr	Pro	Val	Leu	Asn	Asp	Gly	Arg	Gly	Thr	Pro	Val	Leu	Ser	Pro	Leu	
			180					185					190			
Val	Ser	Lys	Ile	Ala	Arg	Val										
			195													

<210> 559

<211> 559

<212> PRT

<213> Chlamydia pneumoniae

<400> 559

Glu	Ile	Pro	Met	Ser	Lys	Leu	Ile	Arg	Arg	Val	Val	Thr	Val	Leu	Ala	
1				5					10					15		
Leu	Thr	Ser	Met	Ala	Ser	Cys	Phe	Ala	Ser	Gly	Gly	Ile	Glu	Ala	Ala	
			20					25					30			
Val	Ala	Glu	Ser	Leu	Ile	Thr	Lys	Ile	Val	Ala	Ser	Ala	Glu	Thr	Lys	
		35					40					45				
Pro	Ala	Pro	Val	Pro	Met	Thr	Ala	Lys	Lys	Val	Arg	Leu	Val	Arg	Arg	
	50					55				60						
Asn	Lys	Gln	Pro	Val	Glu	Gln	Lys	Ser	Arg	Gly	Ala	Phe	Cys	Asp	Lys	
65					70					75					80	
Glu	Phe	Tyr	Pro	Cys	Glu	Glu	Gly	Arg	Cys	Gln	Pro	Val	Glu	Ala	Gln	
				85					90					95		
Gln	Glu	Ser	Cys	Tyr	Gly	Arg	Leu	Tyr	Ser	Val	Lys	Val	Asn	Asp	Asp	
			100					105					110			
Cys	Asn	Val	Glu	Ile	Cys	Gln	Ser	Val	Pro	Glu	Tyr	Ala	Thr	Val	Gly	
		115					120					125				
Ser	Pro	Tyr	Pro	Ile	Glu	Ile	Leu	Ala	Ile	Gly	Lys	Lys	Asp	Cys	Val	
		130				135					140					
Asp	Val	Val	Ile	Thr	Gln	Gln	Leu	Pro	Cys	Glu	Ala	Glu	Phe	Val	Ser	
145					150					155					160	
Ser	Asp	Pro	Glu	Thr	Thr	Pro	Thr	Ser	Asp	Gly	Lys	Leu	Val	Trp	Lys	
				165					170					175		
Ile	Asp	Arg	Leu	Gly	Ala	Gly	Asp	Lys	Cys	Lys	Ile	Thr	Val	Trp	Val	
			180					185					190			
Lys	Pro	Leu	Lys	Glu	Gly	Cys	Cys	Phe	Thr	Ala	Ala	Thr	Val	Cys	Ala	
		195					200					205				
Cys	Pro	Glu	Leu	Arg	Ser	Tyr	Thr	Lys	Cys	Gly	Gln	Pro	Ala	Ile	Cys	
	210					215					220					
Ile	Lys	Gln	Glu	Gly	Pro	Asp	Cys	Ala	Cys	Leu	Arg	Cys	Pro	Val	Cys	
225					230					235					240	
Tyr	Lys	Ile	Glu	Val	Val	Asn	Thr	Gly	Ser	Ala	Ile	Ala	Arg	Asn	Val	
				245					250					255		
Thr	Val	Asp	Asn	Pro	Val	Pro	Asp	Gly	Tyr	Ser	His	Ala	Ser	Gly	Gln	
			260					265					270			
Arg	Val	Leu	Ser	Phe	Asn	Leu	Gly	Asp	Met	Arg	Pro	Gly	Asp	Lys	Lys	
		275					280					285				
Val	Phe	Thr	Val	Glu	Phe	Cys	Pro	Gln	Arg	Arg	Gly	Gln	Ile	Thr	Asn	
			290			295						300				

Val	Ala	Thr	Val	Thr	Tyr	Cys	Gly	Gly	His	Lys	Cys	Ser	Ala	Asn	Val
305					310					315					320
Thr	Thr	Val	Val	Asn	Glu	Pro	Cys	Val	Gln	Val	Asn	Ile	Ser	Gly	Ala
				325					330						335
Asp	Trp	Ser	Tyr	Val	Cys	Lys	Pro	Val	Glu	Tyr	Ser	Ile	Ser	Val	Ser
			340					345					350		
Asn	Pro	Gly	Asp	Leu	Val	Leu	His	Asp	Val	Val	Ile	Gln	Asp	Thr	Leu
		355					360					365			
Pro	Ser	Gly	Val	Thr	Val	Leu	Glu	Ala	Pro	Gly	Gly	Glu	Ile	Cys	Cys
		370				375					380				
Asn	Lys	Val	Val	Trp	Arg	Ile	Lys	Glu	Met	Cys	Pro	Gly	Glu	Thr	Leu
385				390						395					400
Gln	Phe	Lys	Leu	Val	Val	Lys	Ala	Gln	Val	Pro	Gly	Arg	Phe	Thr	Asn
				405					410						415
Gln	Val	Ala	Val	Thr	Ser	Glu	Ser	Asn	Cys	Gly	Thr	Cys	Thr	Ser	Cys
			420					425					430		
Ala	Glu	Thr	Thr	Thr	His	Trp	Lys	Gly	Leu	Ala	Ala	Thr	His	Met	Cys
		435					440					445			
Val	Leu	Asp	Thr	Asn	Asp	Pro	Ile	Cys	Val	Gly	Glu	Asn	Thr	Val	Tyr
	450				455					460					
Arg	Ile	Cys	Val	Thr	Asn	Arg	Gly	Ser	Ala	Glu	Asp	Thr	Asn	Val	Ser
465					470					475					480
Leu	Ile	Leu	Lys	Phe	Ser	Lys	Glu	Leu	Gln	Pro	Ile	Ala	Ser	Ser	Gly
				485					490					495	
Pro	Thr	Lys	Gly	Thr	Ile	Ser	Gly	Asn	Thr	Val	Val	Phe	Asp	Ala	Leu
			500					505					510		
Pro	Lys	Leu	Gly	Ser	Lys	Glu	Ser	Val	Glu	Phe	Ser	Val	Thr	Leu	Lys
		515					520					525			
Gly	Ile	Ala	Pro	Gly	Asp	Ala	Arg	Gly	Glu	Ala	Ile	Leu	Ser	Ser	Asp
	530					535					540				
Thr	Leu	Thr	Ser	Pro	Val	Ser	Asp	Thr	Glu	Asn	Thr	His	Val	Tyr	
545					550					555					

<210> 560  
 <211> 92  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 560															
Lys	Leu	Met	Lys	Lys	Ala	Val	Leu	Ile	Ala	Ala	Met	Phe	Cys	Gly	Val
1				5					10					15	
Val	Ser	Leu	Ser	Ser	Cys	Cys	Arg	Ile	Val	Asp	Cys	Cys	Phe	Glu	Asp
			20					25					30		
Pro	Cys	Ala	Pro	Ser	Ser	Cys	Asn	Pro	Cys	Glu	Val	Ile	Arg	Lys	Lys
		35					40					45			
Glu	Arg	Ser	Cys	Gly	Gly	Asn	Ala	Cys	Gly	Ser	Tyr	Val	Pro	Ser	Cys
	50					55					60				
Ser	Asn	Pro	Cys	Gly	Ser	Thr	Glu	Cys	Asn	Ser	Gln	Ser	Pro	Gln	Val
65						70				75					80
Lys	Gly	Cys	Thr	Ser	Pro	Asp	Gly	Arg	Cys	Lys	Gln				
				85					90						

<210> 561  
 <211> 76  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 561															
Gln	Asn	Asn	Phe	Val	Thr	Leu	Lys	Asn	Lys	Asn	Glu	Gly	Glu	Met	Lys
1				5						10				15	

Leu	Phe	Tyr	Phe	Cys	Asn	Ile	Ile	Phe	Leu	Thr	Ser	Leu	Phe	Ser	Val
			20					25					30		
Ser	Cys	Thr	His	Thr	Pro	Pro	Pro	Arg	Ser	Tyr	Ile	Leu	Ala	Gln	Gly
		35					40					45			
Arg	Thr	Pro	Leu	Val	Asn	Lys	Ala	His	Ser	Leu	Glu	Phe	Phe	Leu	Ala
	50					55					60				
Arg	Ser	Val	Phe	Asn	Thr	Cys	Tyr	Asn	Thr	Asn	Leu				
65					70					75					

<210> 562

<211> 523

<212> PRT

<213> Chlamydia pneumoniae

<400> 562

Arg	Asn	Ser	Arg	Phe	Gln	Gly	Met	Lys	Ser	Leu	Trp	Ser	Lys	Asp	Lys
1				5					10					15	
Arg	Ile	Met	Asn	Trp	Glu	Asn	Val	Arg	Val	Arg	Val	Ala	Pro	Ser	Pro
			20					25					30		
Thr	Gly	Asp	Pro	His	Val	Gly	Thr	Ala	Tyr	Met	Ala	Leu	Phe	Asn	Glu
	35					40						45			
Ile	Phe	Ala	Lys	Arg	Phe	Lys	Gly	Lys	Met	Ile	Leu	Arg	Ile	Glu	Asp
	50					55					60				
Thr	Asp	Arg	Thr	Arg	Ser	Arg	Gln	Asp	Tyr	Glu	Asn	Ile	Phe	Ser	
65					70				75					80	
Ala	Leu	Arg	Trp	Cys	Gly	Ile	Gln	Trp	Asp	Glu	Gly	Pro	Asp	Val	Gly
				85					90					95	
Gly	Pro	Tyr	Gly	Pro	Tyr	Arg	Gln	Ser	Glu	Arg	Thr	Lys	Ile	Tyr	Gln
			100					105					110		
Gly	Tyr	Val	Glu	Thr	Leu	Leu	Lys	Thr	Asp	Cys	Ala	Tyr	Lys	Cys	Phe
		115					120					125			
Ala	Thr	Pro	Gln	Glu	Leu	Ala	Glu	Met	Arg	Ala	Val	Ala	Ser	Thr	Leu
	130					135					140				
Gly	Tyr	Arg	Gly	Gly	Tyr	Asp	Arg	Arg	Tyr	Arg	Tyr	Leu	Ser	Pro	Glu
145					150				155						160
Glu	Val	Ala	Ser	Arg	Glu	Ala	Ala	Gly	Gln	Pro	Tyr	Thr	Ile	Arg	Leu
			165						170					175	
Lys	Val	Pro	Leu	Ser	Gly	Glu	Cys	Val	Phe	Glu	Asp	Tyr	Ser	Lys	Gly
		180						185					190		
Arg	Val	Val	Phe	Pro	Trp	Ala	Asp	Val	Asp	Asp	Gln	Val	Leu	Val	Lys
	195						200					205			
Ser	Asp	Gly	Phe	Pro	Thr	Tyr	His	Phe	Ala	Asn	Val	Ile	Asp	Asp	His
	210					215					220				
Leu	Met	Gly	Ile	Thr	His	Val	Leu	Arg	Gly	Glu	Glu	Trp	Leu	Ser	Ser
225					230					235					240
Thr	Pro	Lys	His	Leu	Leu	Leu	Tyr	Glu	Ala	Phe	Gly	Trp	Glu	Pro	Pro
			245						250					255	
Val	Phe	Leu	His	Met	Pro	Leu	Leu	Leu	Asn	Pro	Asp	Gly	Thr	Lys	Leu
		260						265					270		
Ser	Lys	Arg	Lys	Asn	Pro	Thr	Ser	Ile	Phe	Tyr	Tyr	Arg	Asp	Ser	Gly
		275					280					285			
Tyr	Val	Lys	Glu	Ala	Phe	Val	Asn	Phe	Leu	Thr	Leu	Met	Gly	Tyr	Ser
	290					295					300				
Met	Glu	Gly	Asp	Glu	Glu	Val	Tyr	Ser	Leu	Glu	Arg	Ile	Ile	Glu	Thr
305					310					315					320
Phe	Asn	Pro	Arg	Arg	Ile	Gly	Lys	Ser	Gly	Ala	Val	Phe	Asp	Ile	Gln
			325						330					335	
Lys	Leu	Asp	Trp	Met	Asn	Lys	His	Tyr	Leu	Asn	His	Glu	Gly	Ser	Pro
		340						345					350		
Glu	Cys	Leu	Leu	Lys	Glu	Leu	Gln	Gly	Trp	Leu	Leu	Asn	Asp	Glu	Phe
	355						360						365		

Phe Leu Lys Ile Leu Pro Leu Cys Gln Ser Arg Ile Thr Thr Leu Ala  
 370 375 380  
 Glu Phe Ile Asn Leu Thr Ser Phe Phe Phe Ser Gly Leu Leu Glu Tyr  
 385 390 395 400  
 Arg Val Glu Glu Leu Leu Pro Gln Ala Leu Ser Pro Glu Lys Ala Ala  
 405 410 415  
 Ile Leu Leu Tyr Ser Tyr Val Lys Tyr Leu Glu Lys Thr Asp Gln Trp  
 420 425 430  
 Thr Lys Glu Thr Cys Tyr Leu Gly Ser Lys Trp Leu Ala Gln Ala Phe  
 435 440 445  
 Asn Val His His Lys Lys Ala Ile Ile Pro Leu Leu Tyr Val Ala Ile  
 450 455 460  
 Thr Gly Lys Lys Gln Gly Leu Pro Leu Phe Asp Ser Ile Glu Ile Leu  
 465 470 475 480  
 Gly Lys Pro Arg Ala Arg Ala Arg Leu Val Tyr Ala Glu Lys Leu Leu  
 485 490 495  
 Gly Gly Val Pro Lys Lys Leu Ala Ala Thr Val Asp Lys Phe Met Gln  
 500 505 510  
 Arg Glu Asp Phe Glu Glu Ala Thr Phe Asp Leu  
 515 520

<210> 563  
 <211> 179  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 563  
 Leu Met Ala Cys Glu Gln His Glu Gly Cys Tyr Glu Leu Glu Glu Arg  
 1 5 10 15  
 Glu Glu Ile Glu Asp Ile Lys Asp Ser Asp Thr Lys Trp Val Ser Ile  
 20 25 30  
 Thr Gln Ala Ala Lys Leu His Asn Val Thr Arg Gln Ala Ile Tyr Val  
 35 40 45  
 Ala Ile Lys Gln Lys Lys Leu Lys Ala Ser Lys Glu Thr Arg Trp Glu  
 50 55 60  
 Ile Asp Ile Lys Asp Leu Glu Glu Tyr Lys Arg Asn Arg Tyr Ser Arg  
 65 70 75 80  
 Lys Lys Ser Leu Tyr Gln Gly Glu Leu Val Phe Asp Asn Gly Lys Gly  
 85 90 95  
 Cys Tyr Ser Ile Asn Gln Val Ala Gln Ile Leu Gly Ile Pro Val Gln  
 100 105 110  
 Lys Val Tyr Tyr Ala Thr Arg Thr Gly Thr Ile Arg Gly Glu Arg Lys  
 115 120 125  
 Gly Ala Ala Trp Val Ile His Val Ser Glu Ile Glu Arg Tyr Lys Asn  
 130 135 140  
 Glu Tyr Leu Ser Lys Gln Ala Ala Lys Lys Leu Lys Gly Ala Glu Pro  
 145 150 155 160  
 Lys Glu His Gln Ala Pro Asn Phe Glu Pro Pro Thr Glu Ile Phe Pro  
 165 170 175  
 Glu Ser Asn

<210> 564  
 <211> 378  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 564  
 Asn Tyr Lys Val Ile Met Ser Ile Ala Ile Ala Arg Glu Gln Tyr Ala  
 1 5 10 15

Ala	Ile	Leu	Asp	Met	His	Pro	Lys	Pro	Ser	Ile	Ala	Met	Phe	Ser	Ser		
			20					25					30				
Glu	Gln	Ala	Arg	Thr	Ser	Trp	Glu	Lys	Arg	Gln	Ala	His	Pro	Tyr	Leu		
		35					40					45					
Tyr	Arg	Leu	Leu	Glu	Ile	Ile	Trp	Gly	Val	Val	Lys	Phe	Leu	Leu	Gly		
		50				55					60						
Leu	Ile	Phe	Phe	Ile	Pro	Leu	Gly	Leu	Phe	Trp	Val	Leu	Gln	Lys	Ile		
65					70					75					80		
Cys	Gln	Asn	Phe	Ile	Leu	Leu	Gly	Ala	Gly	Gly	Trp	Ile	Phe	Arg	Pro		
				85					90					95			
Ile	Cys	Arg	Asp	Ser	Asn	Leu	Leu	Arg	Gln	Ala	Tyr	Ala	Ala	Arg	Leu		
			100					105					110				
Phe	Ser	Ala	Ser	Phe	Gln	Asp	His	Val	Ser	Ser	Val	Arg	Arg	Val	Cys		
		115					120					125					
Leu	Gln	Tyr	Asp	Glu	Val	Phe	Ile	Asp	Gly	Leu	Glu	Leu	Arg	Leu	Pro		
		130				135					140						
Asn	Ala	Lys	Pro	Asp	Arg	Trp	Met	Leu	Ile	Ser	Asn	Gly	Asn	Ser	Asp		
145					150					155					160		
Cys	Leu	Glu	Tyr	Arg	Thr	Val	Leu	Gln	Gly	Glu	Lys	Asp	Trp	Ile	Phe		
				165					170					175			
Arg	Ile	Ala	Glu	Glu	Ser	Gln	Ser	Asn	Ile	Leu	Ile	Phe	Asn	Tyr	Pro		
			180					185					190				
Gly	Val	Met	Lys	Ser	Gln	Gly	Asn	Ile	Thr	Arg	Asn	Asn	Val	Val	Lys		
		195					200					205					
Ser	Tyr	Gln	Ala	Cys	Val	Arg	Tyr	Leu	Arg	Asp	Glu	Pro	Ala	Gly	Pro		
		210				215					220						
Gln	Ala	Arg	Gln	Ile	Val	Ala	Tyr	Gly	Tyr	Ser	Leu	Gly	Ala	Ser	Val		
225					230					235					240		
Gln	Ala	Glu	Ala	Leu	Ser	Lys	Glu	Ile	Ala	Asp	Gly	Ser	Asp	Ser	Val		
				245					250					255			
Arg	Trp	Phe	Val	Val	Lys	Asp	Arg	Gly	Ala	Arg	Ser	Thr	Gly	Ala	Val		
			260					265					270				
Ala	Lys	Gln	Phe	Ile	Gly	Ser	Leu	Gly	Val	Trp	Leu	Ala	Asn	Leu	Thr		
		275					280					285					
His	Trp	Asn	Ile	Asn	Ser	Glu	Lys	Arg	Ser	Lys	Asp	Leu	His	Cys	Pro		
		290				295					300						
Glu	Leu	Phe	Ile	Tyr	Gly	Lys	Asp	Ser	Gln	Gly	Asn	Leu	Ile	Gly	Asp		
305					310					315					320		
Gly	Leu	Phe	Lys	Lys	Glu	Thr	Cys	Phe	Ala	Ala	Pro	Phe	Leu	Asp	Pro		
				325					330					335			
Lys	Asn	Leu	Glu	Glu	Cys	Ser	Gly	Lys	Lys	Ile	Pro	Val	Ala	Gln	Thr		
			340					345					350				
Gly	Leu	Arg	His	Asp	His	Ile	Leu	Ser	Asp	Asp	Val	Ile	Lys	Glu	Val		
		355				360						365					
Ala	Gly	His	Ile	Gln	Arg	His	Phe	Asp	Asn								
		370				375											

<210> 565

<211> 607

<212> PRT

<213> Chlamydia pneumoniae

<400> 565

Gln	Tyr	Lys	Asn	Leu	Leu	Trp	Asp	Phe	Ser	Pro	Lys	Gly	Pro	Cys	Gly		
1				5					10					15			
Ile	Lys	Phe	Met	Thr	Asn	Ser	Asp	Asn	Ala	Ser	Ala	Ala	Gly	Leu	Leu		
			20					25					30				
Trp	Ala	His	Pro	Lys	Glu	Asp	Pro	Ala	Phe	Leu	Gly	Met	Ile	Ile	Lys		
		35					40					45					
Glu	Phe	His	Leu	Pro	Pro	Thr	Val	Ala	Gln	Ile	Phe	Ile	Ser	Arg	Gly		
		50				55					60						

Phe	Gln	Thr	Ile	Gln	Glu	Ile	His	Lys	Phe	Leu	Tyr	Ser	His	Leu	Ser	65	70	75	80
Ser	Leu	Tyr	Asp	Pro	Gly	Leu	Phe	Leu	Asp	Met	Ser	Lys	Ala	Val	Glu	85	90	95	
Arg	Leu	Leu	Leu	Ala	Arg	Asp	Arg	Lys	Glu	His	Val	Met	Ile	Tyr	Gly	100	105	110	
Asp	Ser	Asp	Val	Asp	Gly	Met	Thr	Gly	Val	Ala	Leu	Leu	Val	Glu	Phe	115	120	125	
Leu	Arg	Asp	Ile	Asp	Val	His	Val	Ser	Tyr	Phe	Phe	Leu	Gly	Ala	Ile	130	135	140	
Leu	Lys	Gln	His	Gly	Glu	Thr	Ser	Thr	Leu	Ile	Ala	Lys	Leu	Lys	Glu	145	150	155	160
Glu	Gly	Ile	Thr	Leu	Leu	Ile	Thr	Val	Asp	Cys	Gly	Ile	Thr	Ala	Gly	165	170	175	
Lys	Glu	Val	Ser	Asp	Ile	Thr	Arg	Gln	Gly	Ile	Asp	Val	Ile	Ile	Thr	180	185	190	
Asp	His	His	Met	Pro	Thr	Gly	Lys	Ile	Pro	His	Cys	Val	Ala	Thr	Leu	195	200	205	
Asn	Pro	Lys	Leu	Arg	Asp	His	Thr	Tyr	Pro	Asn	Arg	Glu	Leu	Thr	Gly	210	215	220	
Val	Gly	Val	Ala	Phe	Lys	Leu	Ala	Arg	Gly	Val	Leu	Asn	Ala	Leu	Ile	225	230	235	240
Ser	Arg	Asn	Leu	Val	Pro	Lys	Ser	Gln	Gly	Ser	Leu	Lys	Lys	Leu	Leu	245	250	255	
Asp	Leu	Val	Thr	Leu	Gly	Thr	Ile	Thr	Asp	Val	Gly	Val	Leu	Leu	Gly	260	265	270	
Glu	Asn	Arg	Val	Met	Val	Arg	Tyr	Gly	Ile	Lys	Glu	Ile	Ala	Arg	Gly	275	280	285	
Ala	Arg	Pro	Gly	Leu	Asn	Lys	Leu	Cys	Ala	Leu	Cys	Gly	Val	Glu	Lys	290	295	300	
Ser	Glu	Val	Thr	Ser	Thr	Asp	Ile	Val	Leu	Lys	Ile	Ala	Pro	Lys	Leu	305	310	315	320
Asn	Ser	Leu	Gly	Arg	Leu	Asp	Asp	Pro	Ala	Lys	Gly	Val	Glu	Leu	Leu	325	330	335	
Leu	Thr	Gln	Asp	Asp	Glu	Arg	Val	Asp	Ala	Leu	Ile	Met	Glu	Leu	Asp	340	345	350	
Asn	Ile	Asn	Arg	Glu	Arg	Gln	Arg	Ile	Glu	Ala	Glu	Val	Phe	Gln	Asp	355	360	365	
Val	Gln	Glu	Ile	Leu	Asn	Ser	Asn	Pro	Glu	Ile	Leu	Lys	Gln	Ala	Ala	370	375	380	
Ile	Val	Leu	Ser	Ser	Thr	Ala	Trp	His	Ala	Arg	Val	Ile	Pro	Ile	Ile	385	390	395	400
Ser	Ala	Arg	Leu	Ala	Lys	Thr	Tyr	Asn	Lys	Pro	Val	Val	Ile	Ile	Ala	405	410	415	
Ile	Gln	Arg	Gly	Ile	Gly	Lys	Gly	Ser	Ala	Arg	Thr	Ile	Gly	Ser	Phe	420	425	430	
Pro	Leu	Leu	Gly	Val	Leu	Lys	Lys	Cys	Ser	Ser	Leu	Leu	Leu	Ser	Tyr	435	440	445	
Gly	Gly	His	Asp	Phe	Ala	Ala	Gly	Val	Ile	Met	Lys	Glu	Asp	Lys	Val	450	455	460	
Glu	Asp	Phe	Lys	Lys	Lys	Phe	Val	His	Leu	Val	Asn	Ser	Ser	Leu	Lys	465	470	475	480
Lys	Gly	Asp	Thr	Leu	Pro	His	Leu	Glu	Ile	Asp	Ala	Tyr	Ala	Asp	Phe	485	490	495	
Asp	Ala	Ile	Asp	Tyr	Asp	Leu	Leu	Ala	Ser	Met	Glu	Leu	Phe	Glu	Pro	500	505	510	
Phe	Gly	Lys	Gly	Asn	Leu	Met	Pro	Ile	Phe	Tyr	Ser	Lys	Val	Arg	Gln	515	520	525	
Val	Arg	Tyr	Pro	Lys	Val	Leu	Pro	Gly	Asn	His	Leu	Lys	Leu	Tyr	Leu	530	535	540	



Ser	Gln	Lys	Glu	Arg	Asn	Leu	Glu	Gly	Val	Ala	Phe	Gly	Leu	Gly	Arg
545					550					555					560
His	Ala	Asp	Ala	Leu	Lys	Ala	Ser	Trp	His	Tyr	Pro	Leu	Glu	Ile	Ala
				565					570						575
Tyr	Thr	Pro	Arg	Leu	Ser	Gln	Thr	Ser	Gly	Ser	Gly	Val	Ile	His	Leu
			580					585					590		
Leu	Val	Arg	Asp	Phe	Arg	Ile	Ser	Ser	Glu	Pro	Arg	Phe	Ser	Asp	
		595					600					605			

<210> 566  
 <211> 1405  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 566

Ser	Gly	Ala	Met	Lys	Gln	Lys	Val	Lys	Arg	Asn	Phe	Ala	Ile	Ile	Ile
1				5					10					15	
Cys	Val	Phe	Ala	Leu	Ala	Leu	Tyr	Tyr	Val	Leu	Pro	Thr	Cys	Leu	Tyr
			20					25					30		
Tyr	Ala	Lys	Pro	Leu	Asp	Lys	Lys	Ile	Asp	Gly	Asn	Glu	Ala	Glu	His
		35					40					45			
Ile	Ile	Lys	Ser	Phe	Thr	Lys	Gln	Ala	Gln	Gln	Val	Arg	Lys	Asp	Val
	50					55					60				
Ile	Pro	Arg	Val	Ser	Ala	Ile	Leu	Ser	Ser	Leu	His	Leu	Arg	Gly	His
65					70				75						80
Ile	Gln	Gln	His	Pro	Ala	Ile	Pro	Asp	Ile	Val	Ser	Val	Arg	Phe	Lys
			85					90						95	
Arg	Gly	Glu	Asp	Ala	Glu	Asp	Phe	Ile	Gly	Asn	Leu	Val	His	Gly	Glu
			100					105					110		
Pro	Asn	Val	Pro	Ile	Lys	Ser	Ala	Arg	Leu	His	Val	Val	Gly	Tyr	Ser
		115				120						125			
Arg	Glu	His	Asp	Asp	His	Val	Ile	Gln	Val	Ala	Ser	Ser	Ile	Asn	Thr
	130					135					140				
Ser	Leu	Val	Glu	Ser	Asp	Phe	Ser	Phe	Val	Ser	Tyr	Ser	Ser	Glu	Asn
145					150					155					160
Glu	Gln	Glu	Met	Ala	Ser	Ser	Ile	Leu	Gln	Arg	Val	Tyr	Ser	Ala	Cys
			165						170					175	
Thr	Phe	Pro	Lys	Gln	Lys	Asp	Cys	Ser	Cys	Ser	Tyr	Pro	Ser	Ile	Trp
		180						185					190		
Glu	Thr	Ala	Pro	Lys	Glu	Gln	Leu	Gln	Tyr	Ala	Lys	Asn	Leu	Ser	
		195					200					205			
Ser	Gly	Phe	Glu	Val	Phe	Ser	Ser	Arg	Leu	Ser	Ala	Phe	Cys	Gln	Gln
	210					215					220				
Ser	Phe	Ser	Ser	Asn	Gln	Asp	Arg	Leu	Ala	Phe	Leu	Ser	Arg	Leu	Ser
225				230					235						240
Ser	Leu	Ser	Asn	Asp	Ala	Ala	Ile	Asp	Val	Glu	Asp	Gln	Lys	Leu	Leu
			245						250					255	
Lys	Ser	Val	Tyr	Glu	Thr	Leu	Ser	Gln	Thr	Ala	Cys	Ile	Arg	Ser	Leu
		260						265					270		
Asp	Cys	Pro	Tyr	Ile	Glu	Gly	Leu	Arg	Leu	Asp	Cys	Ser	Glu	Ser	Ser
		275					280					285			
Leu	Phe	Phe	Ser	Ser	Ile	Glu	Tyr	Cys	Pro	Lys	Glu	Arg	Lys	Ile	Phe
	290					295					300				
Leu	Thr	Leu	His	Ser	Asp	Leu	Leu	Ala	Gln	Arg	Thr	Ser	Leu	Ser	Lys
305					310					315					320
Glu	Gln	Arg	Leu	Asp	Phe	Asp	Ser	Arg	Leu	Ala	Val	Glu	Lys	Gln	Lys
			325						330					335	
Leu	Ser	Lys	Asn	Leu	Thr	Val	Gln	Val	Glu	Asp	Tyr	Asn	Asn	Gly	Phe
			340					345					350		
Ser	Phe	Gln	Trp	Met	Asp	Lys	Asp	Thr	Gln	Gly	Lys	Ile	Ile	Leu	Gln
		355					360					365			

Gly	Glu	Arg	Leu	Leu	Gln	Gly	Ile	Ala	Glu	His	Leu	Thr	Ala	Leu	Thr	370	375	380
Leu	His	Arg	Pro	Ala	Ala	Glu	Ser	Cys	Asp	Leu	Ile	Pro	Glu	Asn	Phe	385	390	395
Pro	Val	Phe	Cys	Arg	Gln	Pro	Arg	Glu	Ser	Glu	Ala	Phe	Gly	Cys	Tyr	405	410	415
Ile	Phe	Ser	Pro	Asn	Thr	Asp	Cys	Lys	His	Phe	Ser	Lys	Gly	Ser	Val	420	425	430
Tyr	Ile	Leu	Leu	Lys	Gly	Leu	Arg	Ser	Ile	Val	Ala	Lys	Tyr	Gln	Gln	435	440	445
Gly	Gly	Gly	Lys	Glu	Leu	Gln	Ser	Phe	Glu	Lys	Asp	Leu	Gln	Asn	Leu	450	455	460
Tyr	Asn	Cys	Phe	Ser	His	Thr	Glu	Ala	Ile	Ser	Trp	Thr	Leu	Gly	Glu	465	470	475
Asp	Gln	Val	Leu	Glu	Ile	Arg	His	Pro	Leu	Gln	Gln	Phe	Leu	Asp	Val	485	490	495
Trp	Gly	Glu	Gly	Phe	Val	Ile	Gly	Lys	Glu	Gly	Cys	Ala	Phe	Leu	Glu	500	505	510
Val	Lys	Asp	Ile	Gln	Asp	Arg	Leu	Ala	Thr	Val	Asn	Gln	Ile	Glu	Lys	515	520	525
Asn	Arg	Gln	Ser	Asp	Leu	Val	Arg	Trp	His	Glu	Gln	Tyr	Arg	His	Ala	530	535	540
Lys	Cys	Ser	Met	Asp	Leu	Gln	Glu	Arg	Leu	Ser	Ala	Pro	Ile	Pro	Tyr	545	550	555
Gln	Asn	Leu	Phe	Leu	Glu	Asn	Met	Lys	Leu	Asn	Met	Arg	Lys	Phe	Ser	565	570	575
Arg	Gly	Glu	Asn	Ile	Leu	Arg	Leu	Gly	Ile	Asp	Phe	Val	Gly	Gly	Arg	580	585	590
Gln	Leu	Leu	Leu	Ser	Phe	Lys	Asp	His	Gln	Gly	Lys	Gln	Leu	Thr	Asp	595	600	605
Lys	Glu	Asp	Ile	Leu	Lys	Val	Ser	Asp	Glu	Leu	Cys	Ala	Arg	Leu	Asn	610	615	620
Lys	Leu	Gly	Val	Ser	Glu	Ile	Glu	Leu	Arg	Arg	Glu	Gly	Asp	Tyr	Ile	625	630	635
His	Leu	Ser	Val	Pro	Gly	Ser	Ser	Thr	Ile	Ser	Ser	Ser	Glu	Ile	Leu	645	650	655
Gly	Thr	Ser	Lys	Met	Ser	Phe	His	Val	Val	Asn	Glu	Arg	Phe	Ser	Ser	660	665	670
Tyr	Ser	Ala	Ser	Arg	Tyr	Glu	Val	Gln	Arg	Phe	Leu	Asp	Tyr	Leu	Trp	675	680	685
Phe	Thr	Ser	Gln	Ala	Gln	Gly	Lys	Thr	Ser	Pro	Glu	Glu	Ile	Asn	Thr	690	695	700
Phe	Ala	Ser	Ala	Leu	Phe	Asn	Glu	Glu	Val	Asp	Val	Pro	Pro	Ser	Val	705	710	715
His	Glu	Ala	Ile	Thr	Lys	Leu	Lys	Ser	Glu	Gly	Leu	Ala	Phe	Ser	Pro	725	730	735
Ser	Gly	Cys	Glu	Thr	Pro	Ser	Thr	Asp	Leu	Asp	Thr	Thr	Phe	Ser	Met	740	745	750
Ile	Ala	Ile	Gly	Lys	Asp	Ala	Glu	Gln	Lys	Ala	Asn	Pro	Leu	Val	Ile	755	760	765
Val	Phe	Arg	Asn	Tyr	Ala	Leu	Asp	Gly	Ala	Ser	Leu	Lys	Asp	Ile	Arg	770	775	780
Pro	Glu	Phe	Ala	Ala	Gly	Glu	Gly	Tyr	Val	Leu	Asn	Phe	Ser	Val	Lys	785	790	795
Asp	Thr	Ser	Pro	Lys	Lys	Met	Ala	Glu	Lys	Leu	Ser	Pro	Thr	Glu	Ser	805	810	815
Phe	His	Thr	Trp	Thr	Ser	Ala	Tyr	Cys	Gln	Glu	Gly	Ile	Ser	Gly	Thr	820	825	830
Ala	Asn	Gly	Gln	Tyr	Ser	Ala	Asn	Arg	Gly	Trp	Arg	Met	Ala	Val	Val	835	840	845

Ile	Asp	Gly	Tyr	Met	Val	Ser	Ser	Pro	Ile	Leu	Asn	Val	Pro	Leu	Lys	850	855	860
Asn	His	Ala	Ser	Val	Ser	Gly	Lys	Phe	Thr	His	Arg	Glu	Val	Ser	Lys	865	870	875
Leu	Ala	Ser	Asp	Leu	Lys	Ser	Gly	Ala	Met	Ser	Phe	Val	Pro	Glu	Val	885	890	895
Leu	Ser	Glu	Glu	Thr	Ile	Ser	Ser	Asp	Leu	Gly	Lys	Lys	Gln	Cys	Thr	900	905	910
Gln	Gly	Ile	Ile	Ser	Ala	Cys	Cys	Gly	Leu	Ala	Met	Leu	Ile	Val	Leu	915	920	925
Met	Ser	Val	Tyr	Tyr	Arg	Phe	Gly	Gly	Val	Ile	Ala	Ser	Gly	Ala	Val	930	935	940
Leu	Leu	Asn	Leu	Leu	Leu	Ile	Trp	Ala	Ala	Leu	Gln	Tyr	Leu	Asp	Ala	945	950	955
Pro	Leu	Thr	Leu	Ser	Gly	Leu	Ala	Gly	Ile	Val	Leu	Ala	Met	Gly	Met	965	970	975
Ala	Val	Asp	Ala	Asn	Val	Leu	Val	Phe	Glu	Arg	Ile	Arg	Glu	Glu	Phe	980	985	990
Leu	Leu	Ser	Gln	Ser	Leu	Lys	Lys	Ser	Val	Glu	Lys	Gly	Tyr	Thr	Lys	995	1000	1005
Ala	Phe	Gly	Ala	Ile	Phe	Asp	Ser	Asn	Leu	Thr	Thr	Val	Leu	Ala	Ser	1010	1015	1020
Ala	Leu	Leu	Phe	Phe	Leu	Asp	Thr	Gly	Pro	Ile	Lys	Gly	Phe	Ala	Leu	1025	1030	1035
Thr	Leu	Ile	Leu	Gly	Ile	Phe	Ser	Ser	Met	Phe	Thr	Ala	Leu	Phe	Met	1045	1050	1055
Thr	Lys	Phe	Phe	Met	Leu	Trp	Met	Asn	Lys	Thr	Gln	His	Thr	Gln		1060	1065	1070
Leu	His	Met	Met	Asn	Lys	Phe	Val	Gly	Ile	Lys	His	Asp	Phe	Leu	Arg	1075	1080	1085
Gly	Cys	Lys	Lys	Leu	Trp	Ala	Val	Ser	Gly	Ser	Val	Phe	Leu	Leu	Gly	1090	1095	1100
Cys	Val	Ala	Leu	Gly	Phe	Gly	Ala	Trp	Asn	Ser	Val	Leu	Gly	Met	Asp	1105	1110	1115
Phe	Lys	Gly	Gly	Tyr	Ala	Phe	Thr	Phe	Asn	Pro	Lys	Glu	His	Gly	Ile	1125	1130	1135
Ser	Asp	Val	Ala	Gln	Met	Arg	Gly	Lys	Val	Val	His	Lys	Leu	Gln	Glu	1140	1145	1150
Ala	Gly	Leu	Ser	Ser	Arg	Asp	Phe	Arg	Ile	Gln	Thr	Phe	Gly	Ser	Ser	1155	1160	1165
Glu	Lys	Ile	Lys	Ile	Tyr	Phe	Ser	Asp	Lys	Ala	Leu	Ser	Tyr	Thr	Lys	1170	1175	1180
Ala	Asp	Thr	Ser	Leu	Ser	Pro	Lys	Ile	Asn	Asp	His	Glu	Leu	Ala	Leu	1185	1190	1195
Ala	Val	Gly	Leu	Leu	Ser	Glu	Thr	Gly	Leu	Asp	Phe	Ser	Thr	Glu	Thr	1205	1210	1215
Leu	Asn	Glu	Thr	Gln	Asn	Phe	Trp	Ser	Lys	Val	Ser	Ser	Lys	Leu	Ser	1220	1225	1230
Lys	Lys	Met	Arg	Tyr	Gln	Ala	Thr	Ile	Gly	Leu	Leu	Gly	Ala	Leu	Ala	1235	1240	1245
Ile	Ile	Leu	Leu	Tyr	Val	Ser	Leu	Arg	Phe	Glu	Trp	Gln	Tyr	Ala	Phe	1250	1255	1260
Ser	Ala	Val	Cys	Ala	Leu	Ile	His	Asp	Leu	Leu	Ala	Thr	Cys	Ala	Val	1265	1270	1275
Leu	Phe	Ile	Ala	His	Phe	Phe	Leu	Lys	Lys	Ile	Gln	Ile	Asp	Leu	Gln	1285	1290	1295
Ala	Ile	Gly	Ala	Leu	Met	Thr	Val	Leu	Gly	Tyr	Ser	Leu	Asn	Asn	Thr	1300	1305	1310
Leu	Ile	Ile	Phe	Asp	Arg	Ile	Arg	Glu	Asp	Arg	Gln	Ala	Asn	Leu	Phe	1315	1320	1325

Thr	Pro	Met	His	Val	Leu	Val	Asn	Asp	Ala	Leu	Gln	Lys	Thr	Phe	Ser
1330						1335					1340				
Arg	Thr	Val	Met	Thr	Thr	Ala	Thr	Thr	Leu	Ser	Val	Leu	Leu	Met	Leu
1345					1350					1355					1360
Leu	Phe	Ile	Gly	Gly	Ser	Ser	Val	Phe	Asn	Phe	Ala	Phe	Ile	Met	Thr
			1365						1370					1375	
Ile	Gly	Ile	Leu	Leu	Gly	Thr	Leu	Ser	Ser	Leu	Tyr	Ile	Ala	Pro	Pro
			1380					1385					1390		
Leu	Leu	Leu	Phe	Met	Val	Arg	Lys	Glu	Asn	Arg	Ser	Lys			
	1395						1400					1405			

<210> 567  
 <211> 403  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 567

Asn	Lys	Leu	Phe	Cys	Phe	Leu	Ile	Phe	Cys	Phe	Val	Asn	Ile	Ser	Ala
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Ile	Leu	Phe	Asp	Ser	Ser	Phe	Leu	Leu	Lys	Ile	Lys	Arg	Asn	Ser	Lys
			20					25					30		
Arg	Met	Leu	Arg	Ser	Met	Lys	Phe	Pro	Arg	Ile	Ser	Ile	Ser	Asp	Leu
		35					40					45			
Ile	Pro	Thr	Gln	Met	Val	Ile	Trp	Trp	Arg	Gly	Gly	Gly	Asn	Val	His
		50				55					60				
Tyr	Val	Pro	Asn	Ala	Gln	Asn	Leu	Pro	Lys	Lys	Ile	Leu	Gly	Gly	Val
65					70					75					80
Leu	Ala	Cys	Phe	Gly	Leu	Ala	Leu	Leu	Gly	Cys	Ala	Ala	Phe	Ala	Ala
				85					90					95	
Gly	Val	Cys	Gln	Thr	Ile	Phe	Pro	Cys	Ile	Gly	Leu	Met	Ile	Leu	Gly
			100					105					110		
Leu	Val	Leu	Leu	Gly	Phe	Ala	Tyr	Leu	Gln	Tyr	Ser	Lys	Gly	Trp	Ser
		115					120					125			
Arg	Phe	Glu	Arg	Pro	Leu	Phe	Arg	Glu	Thr	Lys	Val	Phe	Glu	Lys	Pro
	130					135					140				
Ile	Asn	Trp	Leu	Gly	Cys	Leu	Ser	Leu	Leu	Gln	Ser	Trp	Lys	Lys	Ile
145					150					155					160
Arg	Pro	Gly	Cys	Tyr	His	Pro	Gly	Cys	Pro	Gln	Val	Glu	Ile	Cys	
				165				170					175		
Glu	Gly	Ser	Gln	Glu	Ile	Val	Thr	Lys	Ile	Phe	Gln	Lys	Lys	Ser	Asp
			180					185					190		
Arg	Asn	Thr	Ser	Ile	Phe	Leu	Ile	Gln	Glu	Met	Asp	Gln	Ile	Ala	Leu
		195					200					205			
Arg	Gln	Gly	Ile	Glu	Lys	Ser	Ser	Leu	Ser	Arg	Lys	Thr	Phe	Ala	Ile
	210					215					220				
Asp	Pro	Ser	Val	Val	Ser	Ser	Leu	Leu	Ser	Glu	Ile	Gln	Arg	Glu	Glu
225					230					235					240
Gln	Gln	Tyr	Leu	Asp	Pro	Lys	Val	Ile	Ser	Trp	Ser	Ser	Glu	Asp	Gln
				245					250					255	
Ala	Ser	Asp	Arg	Thr	His	Pro	Lys	Ser	Ala	Ile	Tyr	Val	Asn	Ile	Ser
			260					265					270		
Asp	Ala	Ala	Gln	Glu	Pro	Gln	Gly	Arg	Cys	Tyr	Ile	Asp	Ala	Tyr	Thr
		275					280					285			
Lys	Ala	Phe	Phe	Thr	Val	Leu	Asp	Gln	Ile	Gly	Asp	Pro	Asn	Ile	Val
	290					295					300				
Lys	Lys	His	Thr	Ile	Tyr	Val	Leu	Thr	Pro	Ile	Leu	Gly	Val	Pro	Asp
305					310					315					320
Ala	Leu	Pro	Lys	Glu	Glu	Gln	Glu	Asn	Leu	Lys	Leu	Leu	Ser	Gln	Ala
				325					330					335	
Ala	Phe	Leu	Tyr	Ser	Ala	Glu	Gln	Val	Ala	Lys	Arg	Met	Arg	Glu	Glu
		340						345					350		

Lys Gln Asp Ser Ile Arg Ile Lys Phe Ile Phe Thr Asp Pro Thr Ser  
 355 360 365  
 Pro Thr Ser Leu Tyr Phe Ser Pro His His Ser Ser Thr Pro His Ser  
 370 375 380  
 Val Thr Pro Ile Ser Leu Ser Gly Phe Val Gly Glu Gln Glu Ser Tyr  
 385 390 395 400  
 Thr Phe Ala

<210> 568  
 <211> 264  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 568  
 Glu Arg Ile Val Thr Tyr Ala Leu Ile Asn Asp Pro Val Asp Leu Ser  
 1 5 10 15  
 Leu Ala Thr Asn Asn Ala Glu Ser Lys Phe Pro Ser Leu Gln Arg Leu  
 20 25 30  
 Pro Asn His Val Ala Ile Ile Met Asp Gly Asn Arg Arg Trp Tyr Lys  
 35 40 45  
 Lys His Arg Glu Glu Cys Gly His Thr His Thr Ser Gly His Tyr Tyr  
 50 55 60  
 Gly Ala Lys Val Leu Pro Asn Ile Leu Asn Ala Val Leu Asp Leu Gly  
 65 70 75 80  
 Ile Lys Val Leu Thr Leu Tyr Thr Phe Ser Thr Glu Asn Phe Gly Arg  
 85 90 95  
 Pro Lys Glu Glu Ile Gln Glu Ile Phe Asn Ile Phe Tyr Thr Gln Leu  
 100 105 110  
 Asp Lys Gln Leu Pro Tyr Leu Met Glu Asn Glu Ile Cys Leu Arg Cys  
 115 120 125  
 Ile Gly Asp Leu Ser Lys Leu Pro Lys Gly Ile Gln Thr Lys Ile Asn  
 130 135 140  
 His Val Ser Arg Met Thr Ala Ser Phe Ser Arg Leu Glu Leu Val Leu  
 145 150 155 160  
 Ala Val Asn Tyr Gly Gly Lys Asp Glu Leu Val Arg Ala Phe Lys Lys  
 165 170 175  
 Leu His Val Asp Ile Leu Asn Lys Lys Ile Ser Ser Asp Asp Leu Ser  
 180 185 190  
 Glu Ser Leu Ile Ser Ser Tyr Leu Asp Thr Ser Gly Leu Thr Asp Pro  
 195 200 205  
 Asp Leu Leu Ile Arg Thr Gly Gly Glu Met Arg Val Ser Asn Phe Leu  
 210 215 220  
 Leu Trp Gln Ile Ala Tyr Thr Glu Leu Tyr Ile Thr Asp Thr Leu Trp  
 225 230 235 240  
 Pro Asp Phe Thr Pro Gln Asp Leu Phe Glu Ala Ile Asn Val Tyr Gln  
 245 250 255  
 Gln Arg Ser Arg Arg Gly Gly Lys  
 260

<210> 569  
 <211> 308  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 569  
 Val Leu Asn Ser Asn Lys Phe Lys Ser Lys Thr Gly Ala Tyr Gly Asp  
 1 5 10 15  
 Leu Phe Gln Arg Val Val Val His Ser Leu Val Leu Thr Phe Leu Val  
 20 25 30

Leu Leu Leu Tyr Ser Ser Leu Phe Pro Leu Thr Ser Phe Ala Leu Gly  
           35                          40                          45  
 Phe Ile Thr Ala Thr Cys Gly Ala Val Gly Thr Tyr Glu Tyr Ser Ser  
           50                          55                          60  
 Met Ala Lys Ala Lys Met His Tyr Pro Leu Ser Thr Phe Ser Ala Ile  
   65                          70                          75                          80  
 Gly Ser Phe Leu Phe Leu Ala Leu Ser Phe Leu Ser Ile Arg Trp Gly  
                           85                          90                          95  
 His Ser Leu Pro Gly Phe Phe Asp Ala Leu Pro Trp Thr Leu Leu Ile  
                           100                          105                          110  
 Val Trp Val Val Trp Ser Ile Phe Arg Val Arg Lys Ser Thr Ile Gly  
                           115                          120                          125  
 Ala Leu Gln Leu Ser Gly Val Thr Leu Phe Ser Ile Leu Tyr Val Gly  
           130                          135                          140  
 Ile Pro Ile Arg Leu Phe Leu His Val Leu Tyr Ser Phe Ile His Thr  
   145                          150                          155                          160  
 Gln Glu Pro Tyr Leu Gly Ile Trp Trp Ala Ser Phe Leu Ile Ala Thr  
                           165                          170                          175  
 Thr Lys Gly Ala Asp Ile Phe Gly Tyr Phe Phe Gly Lys Ala Phe Gly  
                           180                          185                          190  
 Asn Lys Lys Ile Ala Pro Gln Ile Ser Pro Asn Lys Thr Val Val Gly  
                           195                          200                          205  
 Phe Val Ala Gly Cys Leu Gly Ala Thr Leu Ile Ser Phe Ile Phe Phe  
           210                          215                          220  
 Leu Gln Ile Pro Thr Arg Phe Ala Ser Tyr Phe Pro Met Pro Ala Ile  
   225                          230                          235                          240  
 Leu Ile Pro Leu Gly Leu Ala Leu Gly Ile Thr Gly Phe Phe Gly Asp  
                           245                          250                          255  
 Ile Ile Glu Ser Ile Phe Lys Arg Asp Ala His Leu Lys Asn Ser Asn  
                           260                          265                          270  
 Lys Leu Lys Ala Val Gly Gly Met Leu Asp Thr Leu Asp Ser Leu Leu  
                           275                          280                          285  
 Leu Ser Thr Pro Ile Ala Tyr Leu Phe Leu Leu Ile Thr Gln Ser Lys  
           290                          295                          300  
 Glu Phe Ile Gly  
 305

<210> 570  
 <211> 220  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 570  
 Arg Val Tyr Trp Met Ile Ile Thr Ile Asp Gly Pro Ser Gly Thr Gly  
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 Lys Ser Thr Thr Ala Lys Ala Leu Ala Asp His Leu His Phe Asn Tyr  
           20                          25                          30  
 Cys Asn Thr Gly Lys Met Tyr Arg Thr Leu Ala Tyr Ala Arg Leu Gln  
           35                          40                          45  
 Ser Pro Trp Ala Thr Leu Pro Leu Thr Lys Phe Leu Glu Glu Pro Pro  
   50                          55                          60  
 Phe Ser Phe Thr Phe Ala Thr Gly Gln Pro Leu Glu Ser Phe Phe Asn  
   65                          70                          75                          80  
 Gly His Leu Leu Thr Ser Glu Leu Thr Thr Gln Glu Val Ala Asn Ala  
                           85                          90                          95  
 Ala Ser Glu Leu Ser Gln Leu Pro Glu Val Arg Ala Phe Met Gln Asp  
                           100                          105                          110  
 Leu Gln Arg Arg Tyr Ala Gln Leu Gly Asn Cys Val Phe Glu Gly Arg  
           115                          120                          125  
 Asp Met Gly Ser Lys Val Phe Pro Asn Ala Asp Leu Lys Ile Phe Leu  
           130                          135                          140

Thr	Ser	Ser	Pro	Glu	Val	Arg	Ala	Gln	Arg	Arg	Leu	Lys	Asp	Leu	Pro
145					150					155					160
Glu	Gly	Thr	Leu	Ser	Pro	Glu	Gln	Leu	Gln	Ala	Glu	Leu	Val	Lys	Arg
				165					170					175	
Asp	Ala	Ala	Asp	Ala	Gln	Arg	Ala	His	Asp	Pro	Leu	Val	Ile	Pro	Glu
			180					185					190		
Asn	Gly	Ile	Val	Ile	Asp	Ser	Ser	Asp	Leu	Thr	Ile	Arg	Gln	Val	Leu
		195					200					205			
Glu	Lys	Ile	Leu	Ala	Leu	Leu	Phe	Arg	Asn	Glu	Leu				
210						215					220				

<210> 571  
 <211> 234  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 571															
Leu	Phe	Gly	Phe	Asp	Asn	Lys	Thr	Ser	Ser	Gly	Glu	Asn	Phe	Ser	Phe
1				5					10					15	
Thr	Ile	Ser	Lys	Arg	Ala	Met	Ile	Phe	Arg	Ile	Cys	Lys	Phe	Phe	Thr
			20					25					30		
Trp	Val	Ala	Phe	Ser	Leu	Phe	Tyr	Lys	Leu	Lys	Val	Tyr	Gly	Val	Lys
		35					40					45			
Lys	Asn	Phe	Ile	Lys	Gly	Pro	Ala	Ile	Ile	Ala	Val	Asn	His	Asn	Ser
	50					55					60				
Phe	Leu	Asp	Pro	Ile	Ala	Leu	His	Met	Cys	Val	His	Glu	Cys	Ile	Tyr
65					70					75					80
His	Leu	Ala	Arg	Ala	Ser	Leu	Phe	Asn	Ile	Pro	Trp	Leu	Trp	Lys	Gln
				85					90					95	
Trp	Gly	Cys	Phe	Pro	Val	Arg	Gln	Asp	Glu	Gly	Asn	Ser	Ala	Ala	Phe
			100					105					110		
Lys	Ile	Ala	Ser	Arg	Leu	Phe	Asn	Lys	Arg	Lys	Lys	Leu	Val	Ile	Tyr
	115						120					125			
Pro	Glu	Gly	Ala	Arg	Ser	Pro	Asp	Gly	Gln	Leu	Gln	Pro	Gly	Lys	Val
	130					135					140				
Gly	Ile	Gly	Met	Met	Ala	Ala	Lys	Ser	Arg	Val	Pro	Ile	Ile	Pro	Val
145					150					155					160
Tyr	Ile	Arg	Gly	Thr	Phe	Glu	Ala	Phe	Asn	Arg	His	Gln	Lys	Ile	Pro
				165					170					175	
His	Val	Trp	Lys	Thr	Ile	Thr	Cys	Val	Phe	Gly	Thr	Pro	Met	Tyr	Phe
			180					185					190		
Asp	Asp	Ile	Gln	Asn	Pro	Glu	Ile	Lys	Asn	Lys	Glu	Thr	Tyr	Gln	
		195				200					205				
Ile	Ile	Thr	Asn	Gln	Thr	Met	Asn	Lys	Ile	Ala	Glu	Leu	Lys	Ala	Trp
	210					215					220				
Tyr	Glu	Ser	Gly	Cys	Lys	Gly	Asp	Val	Pro						
225						230									

<210> 572  
 <211> 582  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 572															
Thr	Lys	Leu	Pro	Ser	Ser	Lys	His	Gly	Met	Asn	Arg	Gly	Ala	Lys	Glu
1				5					10					15	
Thr	Ser	Pro	Lys	Leu	Met	Ser	Thr	Leu	Leu	Ser	Ile	Leu	Ser	Val	Ile
			20					25					30		
Cys	Ser	Gln	Ala	Ile	Ala	Lys	Ala	Phe	Pro	Asn	Leu	Glu	Asp	Trp	Ala
		35					40					45			

Pro	Glu	Ile	Thr	Pro	Ser	Thr	Lys	Glu	His	Phe	Gly	His	Tyr	Gln	Cys
50						55					60				
Asn	Asp	Ala	Met	Lys	Leu	Ala	Arg	Val	Leu	Lys	Lys	Ala	Pro	Arg	Ala
65					70					75					80
Ile	Ala	Glu	Ala	Ile	Val	Ala	Glu	Leu	Pro	Gln	Glu	Pro	Phe	Ser	Leu
				85					90					95	
Ile	Glu	Ile	Ala	Gly	Ala	Gly	Phe	Ile	Asn	Phe	Thr	Phe	Ser	Pro	Val
			100					105					110		
Phe	Leu	Asn	Gln	Gln	Leu	Glu	His	Phe	Lys	Asp	Ala	Leu	Lys	Leu	Gly
		115					120					125			
Phe	Gln	Val	Ser	Gln	Pro	Lys	Lys	Ile	Ile	Ile	Asp	Phe	Ser	Ser	Pro
	130					135					140				
Asn	Ile	Ala	Lys	Asp	Met	His	Val	Gly	His	Leu	Arg	Ser	Thr	Ile	Ile
145					150					155					160
Gly	Asp	Ser	Leu	Ala	Arg	Ile	Phe	Ser	Tyr	Val	Gly	His	Asp	Val	Leu
				165					170					175	
Arg	Leu	Asn	His	Ile	Gly	Asp	Trp	Gly	Thr	Ala	Phe	Gly	Met	Leu	Ile
		180						185					190		
Thr	Tyr	Leu	Gln	Glu	Asn	Pro	Cys	Asp	Tyr	Ser	Asp	Leu	Glu	Asp	Leu
		195					200					205			
Thr	Ser	Leu	Tyr	Lys	Lys	Ala	Tyr	Val	Cys	Phe	Thr	Asn	Asp	Glu	Glu
	210					215					220				
Phe	Lys	Lys	Arg	Ser	Gln	Gln	Asn	Val	Val	Ala	Leu	Gln	Ala	Lys	Asp
225					230					235					240
Pro	Gln	Ala	Ile	Ala	Ile	Trp	Glu	Lys	Ile	Cys	Glu	Thr	Ser	Glu	Lys
				245					250					255	
Ala	Phe	Gln	Lys	Ile	Tyr	Asp	Ile	Leu	Asp	Ile	Val	Val	Glu	Lys	Arg
		260						265					270		
Gly	Glu	Ser	Phe	Tyr	Asn	Pro	Phe	Leu	Pro	Glu	Ile	Ile	Glu	Asp	Leu
		275					280					285			
Glu	Lys	Lys	Gly	Leu	Leu	Thr	Val	Ser	Asn	Asp	Ala	Lys	Cys	Val	Phe
	290					295				300					
His	Glu	Ala	Phe	Ser	Ile	Pro	Phe	Met	Val	Gln	Lys	Ser	Asp	Gly	Gly
305					310					315					320
Tyr	Asn	Tyr	Ala	Thr	Thr	Asp	Leu	Ala	Ala	Met	Arg	Tyr	Arg	Ile	Glu
				325					330					335	
Glu	Asp	His	Ala	Asp	Lys	Ile	Ile	Ile	Val	Thr	Asp	Leu	Gly	Gln	Ser
			340					345					350		
Leu	His	Phe	Gln	Leu	Leu	Glu	Ala	Thr	Ala	Ile	Ala	Ala	Gly	Tyr	Leu
		355					360					365			
Gln	Pro	Gly	Ile	Phe	Ser	His	Val	Gly	Phe	Gly	Leu	Val	Leu	Asp	Pro
	370					375					380				
Gln	Gly	Lys	Lys	Leu	Lys	Thr	Arg	Ser	Gly	Glu	Asn	Val	Lys	Leu	Arg
385					390					395					400
Glu	Leu	Leu	Asp	Thr	Ala	Ile	Glu	Lys	Ala	Glu	Glu	Ala	Leu	Arg	Glu
			405						410					415	
His	Arg	Pro	Glu	Leu	Thr	Asp	Glu	Ala	Ile	Gln	Glu	Arg	Ala	Pro	Val
			420					425					430		
Ile	Gly	Ile	Asn	Ala	Ile	Lys	Tyr	Ser	Asp	Leu	Ser	Ser	His	Arg	Thr
		435					440					445			
Ser	Asp	Tyr	Val	Phe	Ser	Phe	Glu	Lys	Met	Leu	Arg	Phe	Glu	Gly	Asn
	450					455					460				
Thr	Ala	Met	Phe	Leu	Leu	Tyr	Ala	Tyr	Val	Arg	Ile	Gln	Gly	Ile	Lys
465					470					475					480
Arg	Arg	Leu	Gly	Ile	Ser	Gln	Leu	Ser	Leu	Glu	Gly	Pro	Pro	Glu	Ile
			485						490					495	
Gln	Glu	Pro	Ala	Glu	Glu	Leu	Leu	Ala	Leu	Thr	Leu	Leu	Arg	Phe	Pro
			500					505					510		
Glu	Ala	Leu	Glu	Ser	Thr	Ile	Lys	Glu	Leu	Cys	Pro	His	Phe	Leu	Thr
		515					520					525			



Asp Tyr Leu Tyr Asn Leu Thr His Lys Phe Asn Gly Phe Phe Arg Asp  
 530 535 540  
 Ser His Ile Gln Asp Ser Pro Tyr Ala Lys Ser Arg Leu Phe Leu Cys  
 545 550 555 560  
 Ala Leu Ala Glu Gln Val Leu Ala Thr Gly Met His Leu Leu Gly Leu  
 565 570 575  
 Lys Thr Leu Glu Arg Leu  
 580

<210> 573  
 <211> 477  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 573  
 Thr Phe Glu Lys Val Asn Val Ser Phe Ser Asp Phe Asp Ala Lys Gly  
 1 5 10 15  
 Glu Arg Arg Met Gln Ile Ala Gln Val Phe Gly Cys Gly Arg Leu Asn  
 20 25 30  
 Gly Glu Val Lys Val Ser Gly Ala Lys Asn Ala Ala Thr Lys Leu Leu  
 35 40 45  
 Val Ala Ser Leu Leu Ser Asp Gln Lys Cys Thr Leu Arg Asn Val Pro  
 50 55 60  
 Asp Ile Gly Asp Val Ser Leu Thr Val Glu Leu Cys Lys Ser Leu Gly  
 65 70 75 80  
 Ala His Val Ser Trp Asp Lys Glu Thr Glu Val Leu Glu Ile Tyr Thr  
 85 90 95  
 Pro Glu Ile Gln Cys Thr Arg Val Pro Thr Phe Ser Asn Val Asn  
 100 105 110  
 Arg Ile Pro Ile Leu Leu Leu Gly Ala Leu Leu Gly Arg Cys Pro Glu  
 115 120 125  
 Gly Val Tyr Val Pro Thr Val Gly Gly Asp Ala Ile Gly Glu Arg Thr  
 130 135 140  
 Leu Asn Phe His Phe Glu Gly Leu Lys Gln Leu Gly Val Gln Ile Ser  
 145 150 155 160  
 Ser Asp Ser Ser Gly Tyr Tyr Ala Lys Ala Pro Arg Gly Leu Lys Gly  
 165 170 175  
 Asn Tyr Ile His Leu Pro Tyr Pro Ser Val Gly Ala Thr Glu Asn Leu  
 180 185 190  
 Ile Leu Ala Ala Ile His Ala Lys Gly Arg Thr Val Ile Lys Asn Val  
 195 200 205  
 Ala Leu Glu Ala Glu Ile Leu Asp Leu Val Leu Phe Leu Gln Lys Ala  
 210 215 220  
 Gly Ala Asp Ile Thr Thr Asp Asn Asp Arg Thr Ile Asp Ile Phe Gly  
 225 230 235 240  
 Thr Gly Gly Leu Gly Ser Val Asp His Thr Ile Leu Pro Asp Lys Ile  
 245 250 255  
 Glu Ala Ala Ser Phe Gly Met Ala Ala Val Val Ser Gly Gly Arg Val  
 260 265 270  
 Phe Val Arg Asn Ala Lys Gln Glu Leu Leu Ile Pro Phe Leu Lys Met  
 275 280 285  
 Leu Arg Ser Ile Gly Gly Gly Phe Leu Val Ser Glu Ser Gly Ile Glu  
 290 295 300  
 Phe Phe Gln Glu Arg Pro Leu Val Gly Gly Val Val Leu Glu Thr Asp  
 305 310 315 320  
 Val His Pro Gly Phe Leu Thr Asp Trp Gln Gln Pro Phe Ala Val Leu  
 325 330 335  
 Leu Ser Gln Ala Gln Gly Ser Ser Val Ile His Glu Thr Val His Glu  
 340 345 350  
 Asn Arg Leu Gly Tyr Leu His Gly Leu Gln His Met Gly Ala Glu Cys  
 355 360 365

Gln	Leu	Phe	His	Gln	Cys	Leu	Ser	Thr	Lys	Ala	Cys	Arg	Tyr	Ala	Ile
	370					375					380				
Gly	Asn	Phe	Pro	His	Ser	Ala	Val	Ile	His	Gly	Ala	Thr	Pro	Leu	Trp
385					390					395					400
Ala	Ser	His	Leu	Val	Ile	Pro	Asp	Leu	Arg	Ala	Gly	Phe	Ala	Tyr	Val
				405					410					415	
Met	Ala	Ala	Leu	Ile	Ala	Glu	Gly	Gly	Ser	Ile	Ile	Glu	Asn	Thr	
			420					425				430			
His	Leu	Leu	Asp	Arg	Gly	Tyr	Thr	Asn	Trp	Val	Gly	Lys	Leu	Arg	Ser
		435					440				445				
Leu	Gly	Ala	Lys	Ile	Gln	Ile	Phe	Asp	Met	Glu	Gln	Glu	Glu	Leu	Thr
	450					455					460				
Thr	Ser	Pro	Lys	Ser	Leu	Ala	Leu	Arg	Asp	Ala	Ser	Leu			
465					470					475					

<210> 574

<211> 756

<212> PRT

<213> Chlamydia pneumoniae

<400> 574

Ile	Met	Ala	Ala	Pro	Ile	Asn	Gln	Pro	Ser	Thr	Thr	Thr	Gln	Ile	Thr
1				5					10					15	
Gln	Thr	Gly	Gln	Thr	Thr	Thr	Thr	Thr	Val	Gly	Ser	Leu	Gly	Glu	
			20					25				30			
His	Ser	Val	Thr	Thr	Thr	Gly	Ser	Gly	Ala	Ala	Ala	Gln	Thr	Ser	Gln
		35					40					45			
Thr	Val	Thr	Leu	Ile	Ala	Asp	His	Glu	Met	Gln	Glu	Ile	Ala	Ser	Gln
	50					55				60					
Asp	Gly	Ser	Ala	Val	Ser	Phe	Ser	Ala	Glu	His	Ser	Phe	Ser	Thr	Leu
65					70					75					80
Pro	Pro	Glu	Thr	Gly	Ser	Val	Gly	Ala	Thr	Ala	Gln	Ser	Ala	Gln	Ser
				85					90					95	
Ala	Gly	Leu	Phe	Ser	Leu	Ser	Gly	Arg	Thr	Gln	Arg	Arg	Asp	Ser	Glu
			100					105					110		
Ile	Ser	Ser	Ser	Ser	Asp	Gly	Ser	Ser	Ile	Ser	Arg	Thr	Ser	Ser	Asn
		115				120						125			
Ala	Ser	Ser	Gly	Glu	Thr	Ser	Arg	Ala	Glu	Ser	Ser	Pro	Asp	Leu	Gly
	130					135					140				
Asp	Leu	Asp	Ser	Leu	Ser	Gly	Ser	Glu	Arg	Ala	Glu	Gly	Ala	Glu	Gly
145					150					155					160
Pro	Glu	Gly	Pro	Gly	Gly	Leu	Pro	Glu	Ser	Thr	Ile	Pro	His	Tyr	Asp
				165					170					175	
Pro	Thr	Asp	Lys	Ala	Ser	Ile	Leu	Asn	Phe	Leu	Lys	Asn	Pro	Ala	Val
			180					185					190		
Gln	Gln	Lys	Met	Gln	Thr	Lys	Gly	Gly	His	Phe	Val	Tyr	Val	Asp	Glu
		195					200					205			
Ala	Arg	Ser	Ser	Phe	Ile	Phe	Val	Arg	Asn	Gly	Asp	Trp	Ser	Thr	Ala
	210					215					220				
Glu	Ser	Ile	Lys	Val	Ser	Asn	Ala	Lys	Thr	Lys	Glu	Asn	Ile	Thr	Lys
225					230					235					240
Pro	Ala	Asp	Leu	Glu	Met	Cys	Ile	Ala	Lys	Phe	Cys	Val	Gly	Tyr	Glu
				245					250					255	
Thr	Ile	His	Ser	Asp	Trp	Thr	Gly	Arg	Val	Lys	Pro	Thr	Met	Glu	Glu
			260				265						270		
Arg	Ser	Gly	Ala	Thr	Gly	Asn	Tyr	Asn	His	Leu	Met	Leu	Ser	Met	Lys
		275					280					285			
Phe	Lys	Thr	Ala	Val	Val	Tyr	Gly	Pro	Trp	Asn	Ala	Lys	Glu	Ser	Ser
	290					295					300				
Ser	Gly	Tyr	Thr	Pro	Ser	Ala	Trp	Arg	Arg	Gly	Ala	Lys	Val	Glu	Thr
305					310					315					320

Gly	Pro	Ile	Trp	Asp	Asp	Val	Gly	Gly	Leu	Lys	Gly	Ile	Asn	Trp	Lys	325	330	335
Thr	Thr	Pro	Ala	Pro	Asp	Phe	Ser	Phe	Ile	Asn	Glu	Thr	Pro	Gly	Gly	340	345	350
Gly	Ala	His	Ser	Thr	Ser	His	Thr	Gly	Pro	Gly	Thr	Pro	Val	Gly	Ala	355	360	365
Thr	Val	Val	Pro	Asn	Val	Asn	Val	Asn	Leu	Gly	Gly	Ile	Lys	Val	Asp	370	375	380
Leu	Gly	Gly	Ile	Asn	Leu	Gly	Gly	Ile	Thr	Thr	Asn	Val	Thr	Thr	Glu	385	390	395
Glu	Gly	Gly	Gly	Thr	Asn	Ile	Thr	Ser	Thr	Lys	Ser	Thr	Ser	Thr	Asp	405	410	415
Asp	Lys	Val	Ser	Ile	Thr	Ser	Thr	Gly	Ser	Gln	Ser	Thr	Ile	Glu	Glu	420	425	430
Asp	Thr	Ile	Gln	Phe	Asp	Asp	Pro	Gly	Gln	Gly	Glu	Asp	Asp	Asn	Ala	435	440	445
Ile	Pro	Gly	Thr	Asn	Thr	Pro	Pro	Pro	Pro	Gly	Pro	Pro	Pro	Asn	Leu	450	455	460
Ser	Ser	Ser	Arg	Leu	Leu	Thr	Ile	Ser	Asn	Ala	Ser	Leu	Asn	Gln	Val	465	470	475
Leu	Gln	Asn	Val	Arg	Gln	His	Leu	Asn	Thr	Ala	Tyr	Asp	Ser	Asn	Gly	485	490	495
Asn	Ser	Val	Ser	Asp	Leu	Asn	Gln	Asp	Leu	Gly	Gln	Val	Val	Lys	Asn	500	505	510
Ser	Glu	Asn	Gly	Val	Asn	Phe	Pro	Thr	Val	Ile	Leu	Pro	Lys	Thr	Thr	515	520	525
Gly	Asp	Thr	Asp	Pro	Ser	Gly	Gln	Ala	Thr	Gly	Gly	Val	Thr	Glu	Gly	530	535	540
Gly	Gly	His	Ile	Arg	Asn	Ile	Ile	Gln	Arg	Asn	Thr	Gln	Ser	Thr	Gly	545	550	555
Gln	Ser	Glu	Gly	Ala	Thr	Pro	Thr	Pro	Gln	Pro	Thr	Ile	Ala	Lys	Ile	565	570	575
Val	Thr	Ser	Leu	Arg	Lys	Ala	Asn	Val	Ser	Ser	Ser	Ser	Val	Leu	Pro	580	585	590
Gln	Pro	Gln	Val	Ala	Thr	Thr	Ile	Thr	Pro	Gln	Ala	Arg	Thr	Ala	Ser	595	600	605
Thr	Ser	Thr	Thr	Ser	Ile	Gly	Thr	Gly	Thr	Glu	Ser	Thr	Ser	Thr	Thr	610	615	620
Ser	Thr	Gly	Thr	Gly	Thr	Gly	Ser	Val	Ser	Thr	Gln	Ser	Thr	Gly	Val	625	630	635
Gly	Thr	Pro	Thr	Thr	Thr	Thr	Arg	Ser	Thr	Gly	Thr	Ser	Ala	Thr	Thr	645	650	655
Thr	Thr	Ser	Ser	Ala	Ser	Thr	Gln	Thr	Pro	Gln	Ala	Pro	Leu	Pro	Ser	660	665	670
Gly	Thr	Arg	His	Val	Ala	Thr	Ile	Ser	Leu	Val	Arg	Asn	Ala	Ala	Gly	675	680	685
Arg	Ser	Ile	Val	Leu	Gln	Gln	Gly	Gly	Arg	Ser	Gln	Ser	Phe	Pro	Ile	690	695	700
Pro	Pro	Ser	Gly	Thr	Gly	Thr	Gln	Asn	Met	Gly	Ala	Gln	Leu	Trp	Ala	705	710	715
Ala	Ala	Ser	Gln	Val	Ala	Ser	Thr	Leu	Gly	Gln	Val	Val	Asn	Gln	Ala	725	730	735
Ala	Thr	Ala	Gly	Ser	Gln	Pro	Ser	Ser	Arg	Arg	Ser	Ser	Pro	Thr	Ser	740	745	750
Pro	Arg	Arg	Lys													755		

<210> 575

<211> 241

<212> PRT

<213> Chlamydia pneumoniae

<400> 575

Val	Glu	Asp	Met	Ala	Gly	His	Ser	Lys	Trp	Ala	Asn	Thr	Lys	His	Arg
1				5					10					15	
Lys	Glu	Arg	Ala	Asp	His	Lys	Lys	Gly	Lys	Ile	Phe	Ser	Arg	Ile	Ile
			20					25					30		
Lys	Glu	Leu	Ile	Ser	Ala	Val	Lys	Leu	Gly	Gly	Ala	Asp	Pro	Lys	Ser
		35					40					45			
Asn	Ala	Arg	Leu	Arg	Met	Val	Ile	Gln	Lys	Ala	Lys	Glu	Asn	Asn	Ile
	50					55					60				
Pro	Asn	Glu	Asn	Ile	Glu	Arg	Asn	Leu	Lys	Lys	Ala	Thr	Ser	Ala	Glu
65					70					75					80
Gln	Lys	Asn	Phe	Glu	Glu	Val	Thr	Tyr	Glu	Leu	Tyr	Gly	His	Gly	Gly
			85						90					95	
Val	Gly	Ile	Ile	Val	Glu	Ala	Met	Thr	Asp	Asn	Lys	Asn	Arg	Thr	Ala
			100					105					110		
Ser	Asp	Met	Arg	Ile	Ala	Ile	Asn	Lys	Arg	Gly	Gly	Ser	Leu	Val	Glu
		115					120					125			
Pro	Gly	Ser	Val	Leu	Tyr	Asn	Phe	Ala	Arg	Lys	Gly	Ala	Cys	Thr	Val
	130					135					140				
Ala	Lys	Ser	Ser	Ile	Asp	Glu	Glu	Val	Ile	Phe	Ser	Tyr	Ala	Ile	Glu
145					150					155					160
Ala	Gly	Ala	Glu	Asp	Leu	Asp	Thr	Glu	Asp	Glu	Glu	Asn	Phe	Leu	Val
			165					170						175	
Ile	Cys	Ala	Pro	Ser	Glu	Leu	Ala	Ser	Val	Lys	Glu	Lys	Leu	Ile	Ser
			180					185					190		
Gln	Gly	Ala	Thr	Cys	Ser	Glu	Asp	Arg	Leu	Ile	Tyr	Leu	Pro	Leu	Arg
		195					200					205			
Leu	Val	Asp	Cys	Asp	Glu	Lys	Asp	Gly	Glu	Ala	Asn	Leu	Ala	Leu	Ile
	210					215					220				
Asp	Trp	Leu	Glu	Gln	Ile	Glu	Asp	Val	Asp	Asp	Val	Tyr	His	Asn	Met
225					230					235					240
Ser															

<210> 576  
 <211> 195  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 576

Ser	Ala	Glu	Arg	Gly	Phe	Arg	His	Pro	Ile	Val	Met	Val	Glu	Thr	Val
1				5					10					15	
Leu	His	Asn	Phe	Gln	Arg	Tyr	Leu	Ser	Lys	Tyr	Leu	Tyr	Arg	Val	Phe
			20					25					30		
Arg	Phe	Pro	Cys	Arg	Lys	Lys	Thr	Phe	Leu	Ser	Ser	His	Arg	Val	Leu
		35					40					45			
Ala	Arg	Pro	Ser	Phe	Pro	Val	Asp	Tyr	Cys	Pro	Gly	Lys	Ile	Tyr	Asp
	50					55					60				
Leu	Gln	Glu	Ile	Tyr	Glu	Glu	Leu	Asn	Ala	Gln	Leu	Phe	Gln	Gly	Ala
65					70					75					80
Leu	Arg	Leu	Gln	Ile	Gly	Trp	Phe	Gly	Arg	Lys	Ala	Thr	Arg	Lys	Gly
			85					90						95	
Lys	Ser	Val	Val	Leu	Gly	Leu	Phe	His	Glu	Asn	Glu	Gln	Leu	Ile	Arg
			100					105					110		
Ile	His	Arg	Ser	Leu	Asp	Arg	Gln	Glu	Ile	Pro	Arg	Phe	Phe	Met	Glu
		115					120					125			
Tyr	Leu	Val	Tyr	His	Glu	Met	Val	His	Ser	Val	Val	Pro	Arg	Glu	Tyr
	130					135					140				
Ser	Leu	Ser	Gly	Arg	Ser	Ile	Phe	His	Gly	Lys	Lys	Phe	Lys	Glu	Tyr
145					150					155					160

Glu Gln Arg Phe Pro Leu Tyr Asp Arg Ala Val Ala Trp Glu Lys Ala  
165 170 175  
Asn Ala Tyr Leu Leu Arg Gly Tyr Lys Lys Arg Val Gly Gly Gly Tyr  
180 185 190  
Gly Arg Ala  
195

<210> 577  
<211> 181  
<212> PRT  
<213> Chlamydia pneumoniae

<400> 577  
Ser Ile Phe Gly Arg Val Trp Arg Ser Phe Met Thr Ala Glu Lys Gln  
1 5 10 15  
Asn Thr Gly Ile Leu Gly Leu Glu Ile Arg Tyr Thr Leu Pro Ser Asp  
20 25 30  
Ala Thr Tyr Met Leu Lys Trp Leu Asn Asp Pro Lys Ile Leu Arg Gly  
35 40 45  
Phe Pro Ile Gln Thr Glu Ala Glu Ile Arg Glu Thr Val Asn Phe Trp  
50 55 60  
Val Gly Phe Tyr Arg Tyr His Ser Ser Leu Thr Ala Val Tyr Asn Gly  
65 70 75 80  
Asn Val Ala Gly Val Ala Thr Leu Val Leu Asn Pro Tyr Val Lys Val  
85 90 95  
Ser His His Ala Leu Ile Ser Ile Ile Val Gly Glu Glu Phe Arg Asn  
100 105 110  
Lys Gly Ile Gly Thr Ala Leu Leu Asn Asn Leu Ile His Leu Ala Lys  
115 120 125  
Thr Arg Phe Lys Leu Glu Val Leu Tyr Leu Glu Val Tyr Glu Gly Asn  
130 135 140  
Pro Ala Leu His Leu Tyr Gln Arg Phe Gly Phe Val Glu Val Gly Arg  
145 150 155 160  
Gln Asn Arg Phe Tyr Lys Asp Glu Ile Gly Tyr Leu Ala Lys Thr Thr  
165 170 175  
Met Glu Lys Asp Leu  
180

<210> 578  
<211> 23  
<212> PRT  
<213> Chlamydia pneumoniae

<400> 578  
Met Gln Glu Asn Leu Asp Lys Arg Leu Glu Ala Leu Arg Thr Glu Ile  
1 5 10 15  
Ser Leu Ala Ala Arg Ser Leu  
20

<210> 579  
<211> 90  
<212> PRT  
<213> Chlamydia pneumoniae

<400> 579  
Glu Ser Pro Met Ser Gln Lys Asn Lys Asn Ser Ala Phe Met His Pro  
1 5 10 15  
Val Asn Ile Ser Thr Asp Leu Ala Val Ile Val Gly Lys Gly Pro Met  
20 25 30  
Pro Arg Thr Glu Ile Val Lys Lys Val Trp Glu Tyr Ile Lys Lys His  
35 40 45

Asn Cys Gln Asp Gln Lys Asn Lys Arg Asn Ile Leu Pro Asp Ala Asn  
 50 55 60  
 Leu Ala Lys Val Phe Gly Ser Ser Asp Pro Ile Asp Met Phe Gln Met  
 65 70 75 80  
 Thr Lys Ala Leu Ser Lys His Ile Val Lys  
 85 90

<210> 580  
 <211> 326  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 580  
 Thr Thr Asn Ser Phe Ile Val Leu Ile Ser Ile Ser Leu Ala Thr Leu  
 1 5 10 15  
 Pro Ile Leu Ala Phe Ser Trp Ala Ser Phe Ile Glu Pro Asn Trp Leu  
 20 25 30  
 Arg Thr Thr Ala Ile Pro Trp Arg Leu Pro Lys Lys His Ala His Leu  
 35 40 45  
 His Gly Leu Arg Ile Ala Gln Ile Ser Asp Leu His Phe His Lys Arg  
 50 55 60  
 Val Pro Glu Lys Phe Leu Asn Lys Val Ser Lys Ser Ile Lys Asn Phe  
 65 70 75 80  
 Ser Pro Asp Leu Ile Val Phe Cys Gly Asp Leu Leu Cys Arg Ala Arg  
 85 90 95  
 Leu Glu Asp Lys Glu Arg Leu Glu Thr Phe Leu Asn Thr Leu Glu Ala  
 100 105 110  
 Pro Leu Gly Val Phe Ala Ile Leu Gly Asn His Asp Tyr Ser Ser Tyr  
 115 120 125  
 Ile Ser Arg Asn Thr Lys Gly Glu Ile Thr Cys Ile Pro Glu Glu Lys  
 130 135 140  
 Ser Arg Pro Ile Gln Arg Ala Ile Ile Ala Val Met Gln Gly Leu Phe  
 145 150 155 160  
 Ser Ser Pro Ser Tyr Arg Tyr Asp Pro Asn Leu Thr Pro Gln Glu Pro  
 165 170 175  
 His Pro Asp Leu Leu Lys Leu Leu Lys Asn Thr Pro Leu Thr Leu Leu  
 180 185 190  
 His Asn Thr Thr His Val Ile Pro Asn Thr Leu Asn Ile Val Gly Leu  
 195 200 205  
 Gly Asp Leu Phe Ala Arg Gln Phe His Pro Glu Gln Ala Phe Lys Asn  
 210 215 220  
 Tyr Asp Pro Ser Leu Pro Gly Leu Leu Leu Ser His Asn Pro Asp Gly  
 225 230 235 240  
 Ile Thr Arg Leu Gln Gln Tyr Pro Gly Asp Phe Val Leu Ser Gly His  
 245 250 255  
 Ser His Gly Pro Gln Val Thr Leu Ser Trp Pro Lys Phe Ala Arg Lys  
 260 265 270  
 Phe Phe Glu Arg Leu Ser Gly Leu Glu Asn Pro Tyr Leu Ala Arg Gly  
 275 280 285  
 Tyr Phe Val Thr Lys Glu Gly Lys Gln Leu Tyr Val Asn Arg Gly Leu  
 290 295 300  
 Gly Gly Leu Lys Arg Ile Arg Phe Cys Ser Pro Pro Glu Ile Cys Tyr  
 305 310 315 320  
 Ile Thr Cys Ser Tyr Asp  
 325

<210> 581  
 <211> 228  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 581

Lys	Glu	Phe	Ala	Ser	Ala	Pro	Leu	Leu	Lys	Ser	Ala	Thr	Ser	His	Val
1				5					10					15	
Pro	Met	Ile	Lys	Ser	Ser	Leu	Ile	Leu	Leu	Ser	Gly	Gly	Gln	Gly	Thr
			20					25					30		
Arg	Phe	Gly	Ser	Lys	Ile	Pro	Lys	Gln	Tyr	Leu	Pro	Leu	Asn	Gly	Thr
		35					40					45			
Pro	Leu	Val	Leu	His	Ser	Leu	Lys	Ile	Leu	Ser	Ser	Leu	Pro	Gln	Ile
	50					55					60				
Ala	Glu	Val	Ile	Val	Val	Cys	Asp	Pro	Ser	Tyr	Gln	Glu	Thr	Phe	Gln
65					70					75					80
Glu	Tyr	Pro	Val	Ser	Phe	Ala	Ile	Pro	Gly	Glu	Arg	Arg	Gln	Asp	Ser
				85					90					95	
Val	Phe	Ser	Gly	Leu	Gln	Gln	Val	Ser	Tyr	Pro	Trp	Val	Ile	Ile	His
			100					105					110		
Asp	Gly	Ala	Arg	Pro	Phe	Ile	Tyr	Pro	Asp	Glu	Ile	His	Asp	Leu	Leu
	115					120						125			
Glu	Thr	Ala	Glu	Lys	Ile	Gly	Ala	Thr	Ala	Leu	Ala	Ser	Pro	Ile	Pro
	130					135					140				
Tyr	Thr	Ile	Lys	Gln	Arg	Asn	Pro	Val	Arg	Thr	Leu	Asp	Arg	Asp	Asn
145					150					155					160
Leu	Ala	Ile	Ile	His	Thr	Pro	Gln	Cys	Ile	Lys	Thr	Glu	Ile	Leu	Arg
				165					170					175	
Glu	Gly	Leu	Ala	Leu	Ala	Lys	Glu	Lys	Gln	Leu	Thr	Leu	Val	Asp	Asp
			180					185					190		
Ile	Glu	Ala	Ala	Glu	Ile	Ile	Gly	Lys	Pro	Ser	Gln	Leu	Val	Phe	Asn
	195						200					205			
Lys	His	Pro	Gln	Ile	Lys	Ile	Ser	Tyr	Pro	Glu	Asp	Leu	Thr	Ile	Ala
	210					215					220				
Gln	Ala	Leu	Leu												
225															

<210> 582

<211> 286

<212> PRT

<213> Chlamydia pneumoniae

<400> 582

Ala	Ser	Ser	Asn	Gln	Asn	Phe	Leu	Pro	Arg	Arg	Ser	Asn	Asp	Cys	Pro
1				5					10					15	
Ser	Pro	Pro	Met	Thr	Lys	Val	Ala	Leu	Leu	Ile	Ala	Tyr	Gln	Gly	Thr
			20					25					30		
Ala	Tyr	Ser	Gly	Trp	Gln	Gln	Gln	Pro	Asn	Asp	Leu	Ser	Ile	Gln	Glu
		35					40					45			
Val	Ile	Glu	Ser	Ser	Leu	Lys	Lys	Ile	Thr	Lys	Thr	Arg	Thr	Pro	Leu
	50					55					60				
Ile	Ala	Ser	Gly	Arg	Thr	Asp	Ala	Gly	Val	His	Ala	Tyr	Gly	Gln	Val
65					70					75					80
Ala	His	Phe	Arg	Ala	Pro	Asp	His	Pro	Leu	Phe	Ala	Asn	Ala	Asn	Leu
				85					90					95	
Thr	Lys	Lys	Ala	Leu	Asn	Ala	Ile	Leu	Pro	Lys	Asp	Ile	Val	Ile	Arg
			100					105					110		
Asp	Val	Ala	Leu	Phe	Asp	Asp	Asn	Phe	His	Ala	Arg	Tyr	Leu	Ala	Ile
	115					120						125			
Ala	Lys	Glu	Tyr	Arg	Tyr	Ser	Leu	Ser	Arg	Leu	Ala	Lys	Pro	Leu	Pro
	130					135					140				
Trp	Gln	Arg	His	Phe	Cys	Tyr	Thr	Pro	Arg	His	Pro	Phe	Ser	Thr	Glu
145					150					155					160
Leu	Met	Gln	Glu	Gly	Ala	Asn	Leu	Leu	Ile	Gly	Thr	His	Asp	Phe	Ala
				165					170					175	

Ser	Phe	Ala	Asn	His	Gly	Arg	Asp	Tyr	Asn	Ser	Thr	Val	Arg	Thr	Ile
			180					185					190		
Tyr	Thr	Leu	Asp	Ile	Val	Asp	Lys	Gly	Asp	Ser	Leu	Ser	Ile	Ile	Cys
		195					200					205			
Arg	Gly	Asn	Gly	Phe	Leu	Tyr	Lys	Met	Val	Arg	Asn	Leu	Val	Gly	Ala
	210					215					220				
Leu	Leu	Asp	Val	Gly	Lys	Gly	Ala	Tyr	Pro	Pro	Glu	His	Leu	Leu	Asp
225					230					235					240
Ile	Leu	Glu	Gln	Lys	Asn	Arg	Arg	Glu	Gly	Pro	Ser	Ala	Ala	Pro	Ala
				245					250					255	
Tyr	Gly	Leu	Ser	Leu	His	His	Val	Cys	Tyr	Ser	Ser	Pro	Tyr	Asn	Asn
			260					265					270		
Phe	Cys	Cys	Glu	Gln	Cys	Ser	Val	Ser	Thr	Ser	Asn	Glu	Gly		
		275					280					285			

<210> 583

<211> 263

<212> PRT

<213> Chlamydia pneumoniae

<400> 583

Glu	Gly	Leu	Arg	Trp	Arg	Ser	Val	Lys	Ser	Phe	Leu	Arg	Gln	Cys	Trp
1				5					10					15	
Ile	Tyr	Ser	Met	Leu	Val	Ser	Asp	Glu	Phe	Gln	Leu	Cys	Leu	Arg	Ser
			20					25					30		
Gly	Met	Tyr	Leu	Glu	Asp	Tyr	Asp	Val	Phe	Phe	Phe	Asp	Leu	Asp	Gly
		35					40					45			
Leu	Leu	Val	Asp	Thr	Glu	Pro	Cys	Phe	Tyr	Arg	Ala	Phe	Leu	Gln	Ala
	50					55					60				
Cys	Ala	Glu	Phe	Ser	Leu	Glu	Val	His	Trp	Asp	Phe	Ser	Thr	Tyr	Tyr
65					70				75						80
Ser	His	Thr	Thr	Leu	Gly	Thr	Glu	Ile	Phe	Ser	Lys	Lys	Phe	Ile	Glu
			85						90					95	
Gln	Tyr	Pro	Gln	Ala	Gln	Glu	Tyr	Met	Ala	Glu	Ile	Phe	Ala	Lys	Arg
			100					105					110		
Leu	Gln	Ile	Tyr	Tyr	Lys	Ser	Leu	Glu	His	Ala	Gly	Pro	Ala	Leu	Met
		115				120						125			
Pro	Gly	Val	Glu	Ala	Phe	Ile	Glu	Leu	Val	Leu	Ser	Leu	Asn	Lys	Thr
	130					135					140				
Phe	Gly	Val	Val	Thr	Asn	Ser	Pro	Arg	Asp	Ala	Thr	His	Thr	Leu	Arg
145					150					155					160
Thr	Met	Tyr	Pro	Ile	Leu	Asn	Lys	Phe	Leu	Phe	Trp	Val	Thr	Arg	Glu
				165					170					175	
Asn	Tyr	Ala	Arg	Pro	Lys	Pro	Tyr	Gly	Asp	Ser	Tyr	Asp	Tyr	Ala	Tyr
			180					185					190		
Arg	Thr	Phe	Ala	Arg	Glu	Gly	Met	Lys	Val	Ile	Gly	Phe	Glu	Asp	Ser
		195					200					205			
Val	Lys	Gly	Leu	Arg	Ala	Leu	Ser	Lys	Ile	Pro	Ala	Thr	Leu	Val	Cys
		210				215					220				
Ile	Asn	Ser	Met	Ala	Glu	Ile	Thr	Pro	Glu	Asp	Tyr	Pro	Glu	Leu	Lys
225					230					235					240
Gly	Lys	Glu	Phe	Phe	Ser	Tyr	Pro	Ser	Phe	Asp	Val	Leu	Thr	Glu	His
				245					250					255	
Cys	Ser	Gln	Gln	Lys	Leu	Leu									
			260												

<210> 584

<211> 291

<212> PRT

<213> Chlamydia pneumoniae



<400> 584

Lys	Asn	Pro	Asn	Ala	Leu	Leu	Lys	Lys	Ile	Gln	His	Arg	Leu	Val	Lys
1				5					10					15	
Met	His	Asp	Lys	Asn	Lys	Val	Leu	Tyr	Leu	Gln	Ala	Asn	His	Leu	Asn
			20					25					30		
Gln	Lys	Arg	Lys	Arg	His	Asn	Pro	Leu	Asn	Thr	Tyr	His	Ser	Ser	Asn
		35					40					45			
Thr	Thr	Glu	Thr	Arg	Arg	Leu	Pro	Thr	Tyr	Tyr	Lys	Ser	Asn	Ile	Val
	50					55					60				
Leu	Lys	Met	Ile	Leu	Arg	Ile	Ser	Thr	Val	Ser	Leu	Leu	Thr	Ser	Cys
65					70				75						80
Ser	Phe	Ser	Lys	Asn	Ser	Arg	Thr	Cys	Phe	Val	Thr	Pro	Glu	Arg	Ile
				85					90					95	
Thr	Ser	Gln	Lys	Asp	Cys	Pro	Val	Leu	Leu	His	Pro	Lys	Ser	Thr	Thr
			100					105					110		
Ile	Ser	Pro	Pro	Leu	Tyr	Asp	Trp	Ile	Ser	Pro	Asn	Arg	Glu	Val	Ile
		115					120					125			
Thr	Ala	Tyr	Ser	Phe	Tyr	Cys	Arg	Gly	Gln	Gly	Asn	Ser	Ile	Ile	Thr
	130					135					140				
Pro	Glu	Gly	Val	Leu	Tyr	Asp	Cys	Asp	Gly	Leu	His	His	Ser	Ile	Thr
145					150					155					160
Lys	Glu	Glu	Phe	Arg	Tyr	Ile	His	Pro	Arg	Leu	Ile	Glu	Val	Val	Arg
			165						170					175	
Leu	Leu	Gln	Gln	Asp	His	Pro	Lys	Val	Ser	Ile	Ile	Glu	Ala	Phe	Cys
			180					185					190		
Cys	Pro	Lys	His	Phe	His	Phe	Leu	Glu	Ala	Ser	Gly	Ile	Ser	Leu	Ser
		195					200					205			
Gln	Leu	His	Leu	Gln	Gly	Thr	Ala	Ala	Thr	Phe	Ala	Leu	Asp	Pro	Pro
	210					215					220				
Leu	Pro	Met	Glu	Lys	Leu	Leu	Ala	Thr	Ile	Lys	Lys	Leu	Tyr	Lys	Lys
225					230					235					240
Asn	Ser	Asp	Pro	Ser	Leu	Ser	Asn	Phe	Ile	Val	Thr	Glu	Ala	Thr	Leu
			245						250					255	
Thr	Asn	Pro	Glu	Leu	Arg	Leu	Thr	Gln	Gln	Asp	Leu	Gly	Ser	His	Thr
			260					265					270		
Glu	Ile	Thr	Val	Glu	Ile	Leu	Asp	Asn	Leu	Gln	Asn	Lys	Glu	Ala	Leu
		275					280					285			
Ser	Ser	Ala													
		290													

<210> 585  
 <211> 123  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 585

Ile	Val	Leu	Ser	Phe	Phe	Leu	Gly	Lys	Thr	Lys	Val	Thr	Pro	Arg	Phe
1				5					10					15	
Leu	Met	Asn	Glu	Arg	Thr	Leu	Leu	Leu	Leu	Leu	Lys	Lys	Lys	Lys	Gly
		20						25					30		
Leu	Phe	Leu	Ala	Ile	Leu	Asp	Leu	Thr	Gln	Thr	Glu	Ser	Ser	Leu	Thr
		35					40					45			
Thr	Pro	Glu	Leu	Glu	Lys	Val	Leu	Lys	Gln	Lys	Lys	Ile	Phe	Leu	Ser
	50					55					60				
Cys	Ile	Asp	Arg	Val	Asp	Leu	Gln	Ile	Lys	Glu	Phe	Arg	His	Ala	Phe
65					70					75					80
Ser	Ser	Glu	Leu	Pro	Gln	Asp	Ile	Gln	Glu	Glu	Leu	Glu	Glu	Ile	Arg
			85					90						95	
Asp	Val	Ile	Ile	Arg	Ile	Leu	Asp	Thr	Asp	Lys	Arg	Asn	Tyr	Ala	Gln
			100					105					110		

Lys Lys Lys Glu Phe Gly Ile Tyr Glu Arg Pro  
 115 120

<210> 586

<211> 380

<212> PRT

<213> Chlamydia pneumoniae

<400> 586

Ile	Arg	Ile	Asn	Ala	Thr	Met	His	Arg	Lys	Lys	Arg	Asn	Leu	Val	Phe
1			5						10					15	
Met	Asn	Val	Pro	Asp	Ser	Lys	Asn	Leu	His	Pro	Pro	Ala	Tyr	Glu	Leu
		20						25					30		
Leu	Glu	Ile	Lys	Ala	Arg	Ile	Thr	Gln	Ser	Tyr	Lys	Glu	Ala	Ser	Ala
		35					40					45			
Ile	Leu	Thr	Ala	Ile	Pro	Asp	Gly	Ile	Leu	Leu	Leu	Ser	Glu	Thr	Gly
	50					55					60				
His	Phe	Leu	Ile	Cys	Asn	Ser	Gln	Ala	Arg	Glu	Ile	Leu	Gly	Ile	Asp
65				70					75						80
Glu	Asn	Leu	Glu	Ile	Leu	Asn	Arg	Ser	Phe	Thr	Asp	Val	Leu	Pro	Asp
			85					90					95		
Thr	Cys	Leu	Gly	Phe	Ser	Ile	Gln	Glu	Ala	Leu	Glu	Ser	Leu	Lys	Val
			100					105					110		
Pro	Lys	Thr	Leu	Arg	Leu	Ser	Leu	Cys	Lys	Glu	Ser	Lys	Glu	Lys	Glu
		115				120						125			
Val	Glu	Leu	Phe	Ile	Arg	Lys	Asn	Glu	Ile	Ser	Gly	Tyr	Leu	Phe	Ile
	130					135					140				
Gln	Ile	Arg	Asp	Arg	Ser	Asp	Tyr	Lys	Gln	Leu	Glu	Asn	Ala	Ile	Glu
145				150						155					160
Arg	Tyr	Lys	Asn	Ile	Ala	Glu	Leu	Gly	Lys	Met	Thr	Ala	Thr	Leu	Ala
			165					170						175	
His	Glu	Ile	Arg	Asn	Pro	Leu	Ser	Gly	Ile	Val	Gly	Phe	Ala	Ser	Ile
		180					185					190			
Leu	Lys	Lys	Glu	Ile	Ser	Ser	Pro	Arg	His	Gln	Arg	Met	Leu	Ser	Ser
	195					200						205			
Ile	Ile	Ser	Gly	Thr	Arg	Ser	Leu	Asn	Asn	Leu	Val	Ser	Ser	Met	Leu
	210					215					220				
Glu	Tyr	Thr	Lys	Ser	Gln	Pro	Leu	Asn	Leu	Lys	Ile	Ile	Asn	Leu	Gln
225					230					235					240
Asp	Phe	Phe	Ser	Ser	Leu	Ile	Pro	Leu	Leu	Ser	Val	Ser	Phe	Pro	Asn
			245					250						255	
Cys	Lys	Phe	Val	Arg	Glu	Gly	Ala	Gln	Pro	Leu	Phe	Arg	Ser	Ile	Asp
		260						265					270		
Pro	Asp	Arg	Met	Asn	Ser	Val	Val	Trp	Asn	Leu	Val	Lys	Asn	Ala	Val
		275				280						285			
Glu	Thr	Gly	Asn	Ser	Pro	Ile	Thr	Leu	Thr	Leu	His	Thr	Ser	Gly	Asp
	290					295					300				
Ile	Ser	Val	Thr	Asn	Pro	Gly	Thr	Ile	Pro	Ser	Glu	Ile	Met	Asp	Lys
305					310					315					320
Leu	Phe	Thr	Pro	Phe	Phe	Thr	Thr	Lys	Arg	Glu	Gly	Asn	Gly	Leu	Gly
			325					330						335	
Leu	Ala	Glu	Ala	Gln	Lys	Ile	Ile	Arg	Leu	His	Gly	Gly	Asp	Ile	Gln
			340					345					350		
Leu	Lys	Thr	Ser	Asp	Ser	Ala	Val	Ser	Phe	Phe	Ile	Ile	Ile	Pro	Glu
	355					360						365			
Leu	Leu	Ala	Ala	Leu	Pro	Lys	Glu	Arg	Ala	Ala	Ser				
	370					375					380				

<210> 587  
 <211> 672  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 587  
 Ile Ser Leu Arg Arg Lys Ile Leu Arg Pro Asn Asn Phe Ser Ile Gly  
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 Asp Cys Ser Ser Asn Met Ala Thr Pro Ala Gln Lys Ser Pro Thr Phe  
 20 25 30  
 Gln Asp Pro Ser Phe Val Arg Glu Leu Gly Ser Asn His Pro Val Phe  
 35 40 45  
 Ser Pro Leu Thr Leu Glu Glu Arg Gly Glu Met Ala Ile Ala Arg Val  
 50 55 60  
 Gln Gln Cys Gly Trp Asn His Thr Ile Val Lys Val Ser Leu Ile Ile  
 65 70 75 80  
 Leu Ala Leu Leu Thr Ile Leu Gly Gly Gly Leu Leu Val Gly Leu Leu  
 85 90 95  
 Pro Ala Val Pro Met Phe Ile Gly Thr Gly Leu Ile Ala Leu Gly Ala  
 100 105 110  
 Val Ile Phe Ala Leu Ala Leu Ile Leu Cys Leu Tyr Asp Ser Gln Gly  
 115 120 125  
 Leu Pro Glu Glu Leu Pro Pro Val Pro Glu Pro Gln Gln Ile Gln Ile  
 130 135 140  
 Glu Asp Leu Arg Asn Glu Thr Arg Glu Val Leu Glu Gly Thr Leu Leu  
 145 150 155 160  
 Glu Val Leu Leu Lys Asp Arg Asp Ala Lys Asp Pro Ala Val Pro Gln  
 165 170 175  
 Val Val Val Asp Cys Glu Lys Arg Leu Gly Met Leu Asp Arg Lys Leu  
 180 185 190  
 Arg Arg Glu Glu Glu Ile Leu Tyr Arg Ser Thr Ala His Leu Lys Asp  
 195 200 205  
 Glu Glu Arg Tyr Glu Phe Leu Leu Glu Leu Leu Glu Met Arg Ser Leu  
 210 215 220  
 Val Ala Asp Arg Leu Glu Phe Asn Arg Arg Ser Tyr Glu Arg Phe Val  
 225 230 235 240  
 Gln Gly Ile Met Thr Val Arg Ser Glu Glu Gly Glu Lys Glu Ile Ser  
 245 250 255  
 Arg Leu Gln Asp Leu Ile Ser Leu Gln Gln Gln Thr Val Gln Asp Leu  
 260 265 270  
 Arg Ser Arg Ile Asp Asp Glu Gln Lys Arg Cys Trp Thr Ala Leu Gln  
 275 280 285  
 Arg Ile Asn Gln Ser Gln Lys Asp Ile Gln Arg Ala His Asp Arg Glu  
 290 295 300  
 Ala Ser Gln Arg Ala Cys Glu Gly Thr Glu Met Asp Cys Ala Glu Arg  
 305 310 315 320  
 Gln Gln Leu Glu Lys Asp Leu Arg Arg Gln Leu Lys Ser Met Gln Glu  
 325 330 335  
 Trp Ile Glu Met Arg Gly Thr Ile His Gln Gln Glu Lys Ala Trp Arg  
 340 345 350  
 Lys Gln Asn Ala Lys Leu Glu Arg Leu Gln Glu Asp Leu Arg Leu Thr  
 355 360 365  
 Gly Ile Ala Phe Asp Glu Gln Ser Leu Phe Tyr Arg Glu Tyr Lys Glu  
 370 375 380  
 Lys Tyr Leu Ser Gln Lys Leu Asp Met Gln Lys Ile Leu Gln Glu Val  
 385 390 395 400  
 Asn Ala Glu Lys Ser Glu Lys Ala Cys Leu Glu Ser Leu Val His Asp  
 405 410 415  
 Tyr Glu Lys Gln Leu Glu Gln Lys Asp Ala Asn Leu Lys Lys Ala Ala  
 420 425 430

Ala	Val	Trp	Glu	Glu	Glu	Leu	Gly	Lys	Gln	Gln	Gln	Glu	Asp	Tyr	Glu
		435					440					445			
Gln	Thr	Gln	Glu	Ile	Arg	Arg	Leu	Ser	Thr	Phe	Ile	Leu	Glu	Tyr	Gln
		450				455						460			
Asp	Ser	Leu	Arg	Glu	Ala	Glu	Lys	Val	Glu	Lys	Asp	Phe	Gln	Glu	Leu
465					470					475					480
Gln	Gln	Arg	Tyr	Ser	Arg	Leu	Gln	Glu	Glu	Lys	Gln	Val	Lys	Glu	Lys
				485					490					495	
Ile	Leu	Glu	Glu	Ser	Met	Asn	His	Phe	Ala	Asp	Leu	Phe	Glu	Lys	Ala
			500					505					510		
Gln	Lys	Glu	Asn	Met	Ala	Tyr	Lys	Lys	Leu	Ala	Asp	Leu	Glu	Gly	
		515					520					525			
Ala	Ala	Ala	Pro	Thr	Glu	Ile	Gly	Glu	Asp	Asp	Asp	Trp	Val	Leu	Thr
		530				535					540				
Asp	Ser	Ala	Ser	Leu	Ser	Gln	Lys	Lys	Ile	Arg	Glu	Leu	Val	Glu	Glu
545					550					555					560
Asn	Gln	Glu	Leu	Leu	Lys	Ala	Leu	Ala	Phe	Lys	Ser	Asn	Glu	Leu	Thr
			565						570					575	
Gln	Leu	Val	Ala	Asp	Ala	Val	Glu	Ala	Glu	Lys	Glu	Ile	Ser	Lys	Leu
			580					585					590		
Arg	Glu	His	Ile	Glu	Glu	Gln	Lys	Glu	Gly	Leu	Arg	Ala	Leu	Asp	Lys
		595					600					605			
Met	His	Ala	Gln	Ala	Ile	Lys	Asp	Cys	Glu	Ala	Ala	Gln	Arg	Lys	Cys
		610				615					620				
Cys	Asp	Leu	Glu	Ser	Leu	Leu	Ser	Pro	Val	Arg	Glu	Asp	Ala	Gly	Met
625					630					635					640
Arg	Phe	Glu	Leu	Glu	Val	Glu	Leu	Gln	Arg	Leu	Gln	Glu	Glu	Asn	Ala
			645						650					655	
Gln	Leu	Arg	Ala	Glu	Val	Glu	Arg	Leu	Glu	Gln	Glu	Gln	Phe	Gln	Gly
			660					665					670		

<210> 588

<211> 397

<212> PRT

<213> Chlamydia pneumoniae

<400> 588

Lys	Glu	Lys	Met	Asn	Pro	Ser	Arg	Gly	Glu	Asn	Met	Ala	Ile	Lys	Asn
1				5					10					15	
Ile	Leu	Val	Val	Asp	Asp	Glu	Pro	Leu	Leu	Arg	Asp	Phe	Leu	Ser	Glu
			20					25					30		
Leu	Leu	Thr	Ser	Gln	Gly	Phe	Ile	Pro	Asp	Thr	Ala	Glu	Asn	Leu	Arg
		35				40					45				
Asn	Ala	Leu	Gln	Met	Ile	Arg	Ser	Arg	Asp	Tyr	Asp	Leu	Val	Ile	Ser
50					55					60					
Asp	Met	Ser	Met	Pro	Asp	Gly	Ser	Gly	Leu	Asp	Leu	Ile	Lys	Ile	Ile
65				70					75					80	
Lys	Gln	Ser	Ser	Pro	His	Thr	Pro	Val	Leu	Val	Val	Thr	Ala	Tyr	Gly
			85					90					95		
Ser	Ile	Glu	Asn	Ala	Val	Glu	Ala	Met	His	Gln	Gly	Ala	Phe	Asn	Tyr
			100				105					110			
Leu	Thr	Lys	Pro	Phe	Ser	Ser	Glu	Ala	Leu	Phe	Ala	Phe	Ile	Ser	Lys
		115					120					125			
Ala	Glu	Glu	Leu	Lys	Asn	Leu	Val	His	Glu	Asn	Leu	Phe	Leu	His	Ser
		130				135					140				
Gln	Thr	Thr	Pro	Asp	Ser	His	Pro	Leu	Ile	Ala	Glu	Ser	Lys	Ala	Met
145				150						155					160
Lys	Asp	Leu	Leu	Ala	Ile	Ala	Lys	Lys	Ala	Ala	Ser	Ser	Ser	Ala	Asn
				165					170					175	
Ile	Phe	Ile	His	Gly	Glu	Ser	Gly	Cys	Gly	Lys	Glu	Val	Leu	Ser	Phe
			180					185					190		

Phe	Ile	His	His	Asn	Ser	Pro	Arg	Ala	Asn	His	Pro	Tyr	Ile	Lys	Val
	195						200					205			
Asn	Cys	Ala	Ala	Ile	Pro	Glu	Thr	Leu	Leu	Glu	Ser	Glu	Leu	Phe	Gly
	210					215					220				
His	Glu	Lys	Gly	Ala	Phe	Thr	Gly	Ala	Thr	Thr	Lys	Lys	Ala	Gly	Arg
225					230					235					240
Phe	Glu	Leu	Ala	His	Lys	Gly	Thr	Leu	Leu	Leu	Asp	Glu	Ile	Thr	Glu
				245					250					255	
Val	Pro	Val	Asn	Leu	Gln	Ala	Lys	Leu	Leu	Arg	Ala	Ile	Gln	Glu	Lys
			260					265					270		
Glu	Ile	Glu	His	Leu	Gly	Gly	Thr	Lys	Thr	Leu	Ser	Val	Asp	Val	Arg
		275					280					285			
Ile	Leu	Ala	Thr	Ser	Asn	Arg	Lys	Leu	Lys	Glu	Ala	Ile	Asp	Asp	Lys
	290				295					300					
Ser	Phe	Arg	Gln	Asp	Leu	Tyr	Tyr	Arg	Leu	Asn	Val	Ile	Pro	Leu	His
305					310					315					320
Leu	Pro	Pro	Leu	Arg	Asp	Arg	Gln	Asp	Asp	Ile	Leu	Pro	Leu	Ala	Asn
				325					330					335	
Tyr	Phe	Leu	Asn	Lys	Phe	Cys	Arg	Met	Asn	Asn	Thr	Pro	Leu	Lys	Thr
			340					345					350		
Leu	Ser	Pro	Lys	Ala	Gln	Glu	Leu	Leu	Leu	Asn	Tyr	Pro	Trp	Pro	Gly
		355				360					365				
Asn	Ile	Arg	Glu	Leu	Ser	Asn	Val	Leu	Glu	Arg	Val	Val	Ile	Leu	Glu
	370					375				380					
Asn	Thr	Ser	Leu	Leu	Thr	Glu	Asp	Met	Leu	Ala	Leu	Ala			
385					390					395					

<210> 589

<211> 249

<212> PRT

<213> Chlamydia pneumoniae

<400> 589

Ser	Tyr	Gly	Glu	Leu	Phe	Ile	Leu	Ser	Thr	Leu	Leu	Lys	His	His	Val
1				5					10					15	
Thr	Leu	Gly	Asp	Lys	Met	Arg	Pro	His	Arg	Lys	His	Val	Ser	Ser	Lys
			20					25					30		
Ser	Leu	Ala	Leu	Lys	Gln	Ser	Ala	Ser	Thr	His	Val	Glu	Ile	Thr	Thr
		35					40					45			
Lys	Ala	Phe	Arg	Leu	Ser	Met	Pro	Leu	Lys	Gln	Leu	Ile	Leu	Glu	Lys
	50					55					60				
Ser	Asp	His	Leu	Pro	Pro	Met	Glu	Thr	Ile	Arg	Val	Val	Leu	Thr	Ser
65					70					75					80
His	Lys	Asp	Lys	Leu	Gly	Thr	Glu	Val	His	Val	Val	Ala	Ser	His	Gly
				85					90					95	
Lys	Glu	Ile	Leu	Gln	Thr	Lys	Val	His	Asn	Ala	Asn	Pro	Tyr	Thr	Ala
			100					105					110		
Val	Ile	Asn	Ala	Phe	Lys	Lys	Ile	Arg	Thr	Met	Ala	Asn	Lys	His	Ser
		115						120				125			
Asn	Lys	Arg	Lys	Asp	Arg	Thr	Lys	His	Asp	Leu	Gly	Leu	Ala	Ala	Lys
	130					135					140				
Glu	Glu	Arg	Ile	Ala	Ile	Gln	Glu	Glu	Gln	Glu	Asp	Arg	Leu	Ser	Asn
145					150					155					160
Glu	Trp	Leu	Pro	Val	Glu	Gly	Leu	Asp	Ala	Trp	Asp	Ser	Leu	Lys	Thr
				165					170					175	
Leu	Gly	Tyr	Val	Pro	Ala	Ser	Ala	Lys	Lys	Lys	Ile	Ser	Lys	Lys	Lys
			180					185					190		
Met	Ser	Ile	Arg	Met	Leu	Ser	Gln	Asp	Glu	Ala	Ile	Arg	Gln	Leu	Glu
	195						200					205			
Ser	Ala	Ala	Glu	Asn	Phe	Leu	Ile	Phe	Leu	Asn	Glu	Gln	Glu	His	Lys
	210					215					220				

Ile Gln Cys Ile Tyr Lys Lys His Asp Gly Asn Tyr Val Leu Ile Glu  
 225 230 235 240  
 Pro Ser Leu Lys Pro Gly Phe Cys Ile  
 245

<210> 590  
 <211> 198  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 590  
 Thr Ser Lys Ser Ile Lys Ser Asn Ala Phe Ile Lys Asn Met Thr Ala  
 1 5 10 15  
 Thr Met Ser Leu Leu Asn Leu Pro Ser Ser Gln Asp Ser Ala Ser Glu  
 20 25 30  
 Asp Ser Thr Ser Gln Ser Gln Ile Phe Asp Pro Ile Arg Asn Arg Glu  
 35 40 45  
 Leu Val Ser Thr Pro Glu Glu Lys Val Arg Gln Arg Leu Leu Ser Phe  
 50 55 60  
 Leu Met His Lys Leu Asn Tyr Pro Lys Lys Leu Ile Ile Ile Glu Lys  
 65 70 75 80  
 Glu Leu Lys Thr Leu Phe Pro Leu Leu Met Arg Lys Gly Thr Leu Ile  
 85 90 95  
 Pro Lys Arg Arg Pro Asp Ile Leu Ile Ile Thr Pro Pro Thr Tyr Thr  
 100 105 110  
 Asp Ala Gln Gly Asn Thr His Asn Leu Gly Asp Pro Lys Pro Leu Leu  
 115 120 125  
 Leu Ile Glu Cys Lys Ala Leu Ala Val Asn Gln Asn Ala Leu Lys Gln  
 130 135 140  
 Leu Leu Ser Tyr Asn Tyr Ser Ile Gly Ala Thr Cys Ile Ala Met Ala  
 145 150 155 160  
 Gly Lys His Ser Gln Val Ser Ala Leu Phe Asn Pro Lys Thr Gln Thr  
 165 170 175  
 Leu Asp Phe Tyr Pro Gly Leu Pro Glu Tyr Ser Gln Leu Leu Asn Tyr  
 180 185 190  
 Phe Ile Ser Leu Asn Leu  
 195

<210> 591  
 <211> 254  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 591  
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 Leu Gly Lys Asn His Thr Leu Thr Thr Leu Phe Thr Pro Glu Gly Leu  
 20 25 30  
 Phe Thr Phe Phe Ala Lys Gln Gly Gln Thr Leu Gln Cys Asp Tyr Arg  
 35 40 45  
 Glu Thr Leu Val Pro Ile Ser Leu Gly Lys Tyr Thr Leu His Arg Asn  
 50 55 60  
 Gly Ser Arg Leu Pro Lys Leu Thr His Gly Asp Ile Leu Asn Ala Phe  
 65 70 75 80  
 Glu Ala Ile Lys Gln Thr Tyr Ala Leu Leu Glu Ala Ser Gly Lys Met  
 85 90 95  
 Ile Gln Ala Leu Leu Ala Ser Gln Trp Lys Glu Lys Pro Ser His Lys  
 100 105 110  
 Leu Phe Ser Leu Phe Leu Asn Phe Leu His Arg Ile Pro Glu Ser Ser  
 115 120 125

Asn	Pro	Glu	Phe	Phe	Ala	Ala	Ile	Phe	Val	Leu	Lys	Leu	Leu	Gln	Tyr
130						135					140				
Glu	Gly	Ile	Leu	Asp	Leu	Thr	Pro	Ala	Cys	Ser	Leu	Cys	Lys	Ala	Ser
145					150					155					160
Leu	Pro	Tyr	Ala	Cys	Tyr	Arg	Tyr	Gln	Gly	His	Lys	Leu	Cys	Lys	Lys
				165					170					175	
His	Gln	His	Lys	Gln	Ala	Ile	Ser	Ile	Glu	Lys	Glu	Glu	Glu	Gln	Ile
			180					185					190		
Leu	Gln	Ala	Ile	Ile	His	Ala	Lys	Gln	Phe	Ser	Glu	Leu	Leu	Ala	Ile
		195					200					205			
Ala	Glu	Phe	Pro	Ile	Ala	Ile	Ala	Glu	Lys	Ile	Phe	Tyr	Leu	Phe	Asp
		210				215					220				
Ser	Leu	Gln	Glu	Glu	Lys	Lys	Ser	Glu	Arg	Asn	Ser	Ser	Glu	Asp	Pro
225					230					235					240
Tyr	His	Glu	Ile	Leu	Arg	Leu	Ser	Lys	Val	Val	His	Pro	Tyr		
				245					250						

<210> 592

<211> 207

<212> PRT

<213> Chlamydia pneumoniae

<400> 592

Leu	Phe	Leu	Tyr	Gly	Asp	His	Asn	Leu	Gly	Phe	Ala	Cys	Arg	Tyr	Leu
1				5					10					15	
Phe	Phe	Phe	Ile	Val	Leu	Phe	Ala	Ser	Gly	Ser	Phe	Gly	Asn	Gln	Leu
			20					25					30		
Leu	Ser	Val	Pro	Cys	Trp	Leu	Ser	Glu	Glu	Glu	Ser	Phe	Tyr	Thr	His
		35					40					45			
Arg	Phe	Asp	Phe	Ser	Lys	Ser	Tyr	Pro	Asp	Met	Glu	Asn	Met	Glu	Ile
	50					55					60				
Gln	Ala	Gln	Arg	Lys	Lys	Arg	Val	Glu	Phe	Asn	Leu	Thr	Gly	Glu	Phe
65					70					75					80
Pro	Lys	Leu	Glu	Thr	Leu	Asn	Tyr	Gln	Gly	Ser	Phe	Gly	His	Leu	Arg
				85					90					95	
Ala	Lys	Cys	Arg	Gly	Val	Tyr	Pro	Val	Leu	Tyr	Ala	Leu	Asn	Phe	Ser
			100					105					110		
Cys	Ser	Ser	Cys	Lys	Met	Asp	Met	Asp	Phe	Arg	Gly	Lys	Trp	Asn	Arg
		115					120					125			
Ser	Ser	Thr	Ile	Thr	Ile	Ser	Asn	Gln	Lys	Glu	Ser	Ile	Asn	Leu	Lys
		130				135						140			
Leu	Pro	Lys	Asp	Val	Gly	Val	Ile	Val	Asn	Thr	Lys	Thr	Ser	Leu	Lys
145					150					155					160
Gly	Asn	Val	Cys	Pro	Gly	Ser	Thr	Phe	Ile	Lys	Gln	Gly	Trp	Gly	Val
				165					170					175	
Trp	Asn	Lys	Ile	Tyr	His	Asn	Asp	Leu	Val	Gly	Phe	Ser	Glu	Val	Thr
			180					185					190		
Leu	Ile	Phe	Asn	Val	Ser	Ser	Glu	Gly	Gly	Thr	Ile	Thr	Phe	Ser	
		195					200					205			

<210> 593

<211> 219

<212> PRT

<213> Chlamydia pneumoniae

<400> 593

Ser	Leu	Ile	Met	Arg	Cys	Thr	Ala	Tyr	Cys	Thr	Ala	Ser	Ala	Tyr	Asn
1				5					10					15	
Leu	His	Val	Leu	Phe	His	Leu	Leu	Lys	Pro	Arg	Tyr	Pro	Thr	Ile	Leu
			20					25					30		

Ser	Arg	Glu	Tyr	Val	Leu	Ala	Asn	Leu	Asp	Ser	Thr	Gln	Ala	Ser	Asn
	35						40					45			
Gln	Leu	Ala	Ile	Phe	Phe	Pro	Phe	Gly	Val	Ala	Val	Phe	Trp	Gly	Trp
	50					55					60				
Glu	Glu	Ser	Glu	Glu	Ile	Lys	Leu	Leu	Gln	Thr	Ile	Val	Thr	Ala	Ser
65					70				75						80
Pro	Glu	Ile	Leu	Pro	Gln	Pro	Glu	Ile	Asp	Cys	Tyr	Asn	Phe	His	Tyr
				85					90					95	
Gly	Asp	Lys	Leu	Gln	Ile	Arg	Arg	Asp	Arg	Leu	Thr	Leu	Ala	Asp	Thr
			100					105					110		
Thr	Leu	Asn	Thr	Lys	Leu	Ala	Ile	Ala	Phe	Gly	Leu	Ala	Gln	Ser	Val
		115					120						125		
Lys	Leu	Thr	Thr	Phe	Glu	Thr	Thr	Ile	Tyr	Lys	Thr	Ile	Glu	Asp	Ser
	130					135					140				
Lys	Arg	Leu	Pro	Gln	Asp	Leu	Ala	Thr	Lys	Gly	Lys	Ile	Ser	Met	Ser
145					150					155					160
Arg	Lys	Ala	Ile	Ala	Lys	Lys	Ile	Gly	Lys	Leu	Phe	Leu	Asp	Lys	Ala
				165					170					175	
Ser	Val	Asn	Leu	His	Ser	Asp	Ile	Leu	Asp	Glu	Pro	Asp	Phe	Phe	Trp
		180						185					190		
Asp	His	Pro	Glu	Thr	Gln	Ala	Ile	Tyr	Arg	Asp	Val	Leu	Ser	Cys	Leu
	195					200						205			
Asp	Ile	Glu	Ala	Arg	Ile	Asn	Val	Leu	Ile	Val					
	210					215									

<210> 594  
 <211> 110  
 <212> PRT  
 <213> Chlamydia pneumoniae

Leu	Tyr	Ser	Lys	Met	Phe	Ser	Met	Ser	Phe	Lys	Arg	Phe	Leu	Gln	Gln
1				5					10					15	
Ile	Pro	Val	Arg	Ile	Cys	Leu	Leu	Ile	Ile	Tyr	Leu	Tyr	Gln	Trp	Leu
		20						25					30		
Ile	Ser	Pro	Leu	Leu	Gly	Ser	Cys	Cys	Arg	Phe	Phe	Pro	Ser	Cys	Ser
		35					40					45			
His	Tyr	Ala	Glu	Gln	Ala	Leu	Lys	Ser	His	Gly	Phe	Leu	Met	Gly	Cys
	50					55					60				
Trp	Leu	Ser	Ile	Lys	Arg	Ile	Gly	Lys	Cys	Gly	Pro	Trp	His	Pro	Gly
65				70						75					80
Gly	Ile	Asp	Met	Val	Pro	Lys	Thr	Ala	Leu	Gln	Glu	Val	Leu	Glu	Pro
			85						90					95	
Tyr	Gln	Glu	Ile	Asp	Gly	Gly	Asp	Ser	Ser	His	Phe	Ser	Glu		
			100					105					110		

<210> 595  
 <211> 368  
 <212> PRT  
 <213> Chlamydia pneumoniae

Val	Leu	Gly	Ala	Lys	Cys	Met	Ala	Phe	Lys	Arg	Lys	Thr	Arg	Trp	Leu
1				5					10					15	
Trp	Gln	Val	Leu	Ile	Leu	Ser	Val	Gly	Leu	Asn	Met	Leu	Phe	Leu	Leu
		20						25					30		
Leu	Phe	Tyr	Ser	Ala	Ile	Phe	Arg	Lys	Asp	Ile	Tyr	Lys	Leu	His	Leu
	35					40						45			
Phe	Ser	Gly	Pro	Leu	Ile	Ala	Lys	Ser	Ser	Arg	Lys	Val	Tyr	Leu	Ser
	50					55					60				



Glu	Asp	Phe	Leu	Asn	Glu	Ile	Ser	Gln	Ala	Ser	Leu	Asp	Asp	Leu	Ile
65					70					75					80
Ser	Leu	Phe	Lys	Asp	Glu	Arg	Tyr	Met	Tyr	Gly	Arg	Pro	Ile	Lys	Leu
				85					90					95	
Trp	Ala	Leu	Ser	Val	Ala	Ile	Ala	Ser	His	His	Ile	Asp	Ile	Thr	Pro
			100					105					110		
Val	Leu	Ser	Lys	Pro	Leu	Thr	Tyr	Thr	Glu	Leu	Lys	Gly	Ser	Ser	Val
			115				120					125			
Arg	Trp	Leu	Leu	Pro	Asn	Ile	Asp	Leu	Lys	Asp	Phe	Pro	Val	Ile	Leu
	130					135					140				
Asp	Tyr	Leu	Arg	Cys	His	Lys	Tyr	Pro	Tyr	Thr	Ser	Lys	Gly	Leu	Phe
145					150					155					160
Leu	Leu	Ile	Glu	Lys	Met	Val	Gln	Glu	Gly	Trp	Val	Asp	Glu	Asp	Cys
				165					170					175	
Leu	Tyr	His	Phe	Cys	Ser	Thr	Pro	Glu	Phe	Leu	Tyr	Leu	Arg	Thr	Leu
			180					185					190		
Leu	Val	Gly	Ala	Asp	Val	Gln	Ala	Ser	Ser	Val	Ala	Ser	Leu	Ala	Arg
		195					200					205			
Met	Val	Ile	Arg	Cys	Gly	Ser	Glu	Arg	Phe	Phe	His	Phe	Cys	Asn	Glu
	210					215					220				
Glu	Ser	Arg	Thr	Ser	Met	Ile	Ser	Ala	Thr	Gln	Arg	Gln	Lys	Val	Leu
225					230					235					240
Lys	Ser	Tyr	Leu	Asp	Cys	Glu	Glu	Ser	Leu	Ala	Ala	Leu	Leu	Leu	Leu
				245					250					255	
Val	His	Asp	Ser	Asp	Val	Val	Leu	His	Glu	Phe	Cys	Asp	Glu	Asp	Leu
			260					265					270		
Glu	Lys	Val	Ile	Arg	Leu	Met	Pro	Gln	Glu	Ser	Pro	Tyr	Ser	Gln	Asn
		275					280					285			
Phe	Phe	Ser	Arg	Leu	Gln	His	Ser	Pro	Arg	Arg	Glu	Leu	Ala	Cys	Met
	290					295					300				
Ser	Thr	Gln	Arg	Val	Glu	Ala	Pro	Arg	Val	Gln	Glu	Asp	Gln	Asp	Glu
305					310					315					320
Glu	Tyr	Val	Val	Gln	Asp	Gly	Asp	Ser	Leu	Trp	Leu	Ile	Ala	Lys	Arg
				325					330					335	
Phe	Gly	Ile	Pro	Met	Asp	Lys	Ile	Ile	Gln	Lys	Asn	Gly	Leu	Asn	His
			340					345					350		
His	Arg	Leu	Phe	Pro	Gly	Lys	Val	Leu	Lys	Leu	Pro	Ala	Lys	Gln	Ser
		355					360					365			

<210> 596

<211> 814

<212> PRT

<213> Chlamydia pneumoniae

<400> 596

Asn	Thr	Cys	His	Tyr	Thr	Gln	Val	Ile	Val	Lys	Ser	Leu	Val	Lys	Tyr
1				5					10					15	
Ser	Leu	Arg	Leu	Ser	Ser	Met	Arg	Ile	Pro	Ile	Thr	Leu	Leu	Gln	Thr
			20					25					30		
Tyr	Phe	Ser	Glu	Pro	Leu	Ser	Thr	Lys	Glu	Ile	Leu	Glu	Ala	Cys	Asp
		35					40					45			
His	Ile	Gly	Ile	Glu	Ala	Glu	Ile	Glu	Asn	Thr	Thr	Leu	Tyr	Ser	Phe
	50					55				60					
Ala	Ser	Val	Ile	Thr	Ala	Lys	Ile	Leu	His	Thr	Ile	Pro	His	Pro	Asn
65					70				75						80
Ala	Asp	Lys	Leu	Arg	Val	Ala	Thr	Leu	Thr	Asp	Gly	Glu	Lys	Glu	His
				85					90					95	
Gln	Val	Val	Cys	Gly	Ala	Pro	Asn	Cys	Glu	Ala	Gly	Leu	Ile	Val	Ala
			100					105					110		
Leu	Ala	Leu	Pro	Gly	Ala	Lys	Leu	Phe	Asp	Ser	Glu	Gly	Gln	Ala	Tyr
		115					120						125		

Thr	Ile	Lys	Lys	Ser	Lys	Leu	Arg	Gly	Val	Glu	Ser	Gln	Gly	Met	Cys
130						135				140					
Cys	Gly	Ala	Asp	Glu	Leu	Gly	Leu	Asp	Glu	Leu	Gln	Ile	Gln	Glu	Arg
145					150					155					160
Ala	Leu	Leu	Glu	Leu	Pro	Glu	Ala	Thr	Pro	Leu	Gly	Glu	Asp	Leu	Ala
				165					170					175	
Thr	Val	Leu	Gly	Asn	Thr	Ser	Leu	Glu	Ile	Ser	Leu	Thr	Pro	Asn	Leu
			180					185					190		
Gly	His	Cys	Ala	Ser	Phe	Leu	Gly	Leu	Ala	Arg	Glu	Ile	Cys	His	Val
	195					200						205			
Thr	Gln	Ala	Asn	Leu	Val	Ile	Pro	Lys	Glu	Phe	Ser	Phe	Glu	Asn	Leu
210						215						220			
Pro	Thr	Thr	Ala	Leu	Asp	Met	Gly	Asn	Asp	Pro	Asp	Ile	Cys	Pro	Phe
225					230					235					240
Phe	Ser	Tyr	Val	Val	Ile	Thr	Gly	Ile	Ser	Ala	Gln	Pro	Ser	Pro	Ile
				245					250					255	
Lys	Leu	Gln	Glu	Ser	Leu	Gln	Ala	Leu	Lys	Gln	Lys	Pro	Ile	Asn	Ala
			260					265					270		
Ile	Val	Asp	Ile	Thr	Asn	Tyr	Ile	Met	Leu	Ser	Leu	Gly	Gln	Pro	Leu
		275					280					285			
His	Ala	Tyr	Asp	Ala	Ser	His	Val	Ala	Leu	Asp	Ser	Leu	Arg	Val	Glu
	290					295					300				
Lys	Leu	Ser	Thr	Pro	Glu	Ser	Leu	Thr	Leu	Leu	Asn	Gly	Glu	Thr	Val
305					310					315					320
Leu	Leu	Pro	Ser	Gly	Val	Pro	Val	Val	Arg	Asp	Asp	His	Ser	Leu	Leu
				325					330					335	
Gly	Leu	Gly	Gly	Val	Met	Gly	Ala	Lys	Ala	Pro	Ser	Phe	Gln	Glu	Thr
			340					345					350		
Thr	Thr	Thr	Thr	Val	Ile	Lys	Ala	Ala	Tyr	Phe	Leu	Pro	Glu	Ala	Leu
			355				360					365			
Arg	Ala	Ser	Gln	Lys	Leu	Leu	Pro	Ile	Pro	Ser	Glu	Ser	Ala	Tyr	Arg
	370					375					380				
Phe	Thr	Arg	Gly	Ile	Asp	Pro	Gln	Asn	Val	Val	Pro	Ala	Leu	Gln	Ala
385					390					395					400
Ala	Ile	His	Tyr	Ile	Leu	Glu	Ile	Phe	Pro	Glu	Ala	Thr	Ile	Ser	Pro
				405					410					415	
Ile	Tyr	Ser	Ser	Gly	Glu	Ile	Cys	Arg	Glu	Leu	Lys	Glu	Val	Ala	Leu
			420					425					430		
Arg	Pro	Lys	Thr	Leu	Gln	Arg	Ile	Leu	Gly	Lys	Ser	Phe	Ser	Ile	Glu
		435					440					445			
Ile	Leu	Ser	Gln	Lys	Leu	Gln	Ser	Leu	Gly	Phe	Ser	Thr	Thr	Pro	Gln
	450					455					460				
Glu	Thr	Ser	Leu	Leu	Val	Lys	Val	Pro	Ser	Tyr	Arg	His	Asp	Ile	Asn
465					470					475					480
Glu	Glu	Ile	Asp	Leu	Val	Glu	Glu	Ile	Cys	Arg	Thr	Glu	Ser	Trp	Asn
				485					490					495	
Ile	Glu	Thr	Gln	Asn	Pro	Val	Ser	Cys	Tyr	Thr	Pro	Ile	Tyr	Lys	Leu
			500					505					510		
Lys	Arg	Glu	Thr	Ala	Gly	Phe	Leu	Ala	Asn	Ala	Gly	Leu	Gln	Glu	Phe
		515					520					525			
Phe	Thr	Pro	Asp	Leu	Leu	Asp	Pro	Glu	Thr	Val	Ala	Leu	Thr	Arg	Lys
	530					535					540				
Glu	Lys	Glu	Glu	Ile	Ser	Leu	Gln	Gly	Ser	Lys	His	Thr	Thr	Val	Leu
545					550					555					560
Arg	Ser	Ser	Leu	Leu	Pro	Gly	Leu	Leu	Lys	Ser	Ala	Ala	Thr	Asn	Leu
				565					570					575	
Asn	Arg	Gln	Ala	Pro	Ser	Val	Gln	Ala	Phe	Glu	Ile	Gly	Thr	Val	Tyr
		580					585						590		
Ala	Lys	His	Gly	Glu	Gln	Tyr	Gln	Glu	Thr	Gln	Thr	Leu	Ala	Ile	Leu
		595					600					605			

Leu	Thr	Glu	Asp	Gly	Glu	Ser	Arg	Ser	Trp	Leu	Pro	Lys	Pro	Ser	Leu
610						615					620				
Ser	Phe	Tyr	Ser	Leu	Lys	Gly	Trp	Val	Glu	Arg	Leu	Leu	Tyr	His	His
625					630					635					640
His	Leu	Ser	Ile	Asp	Ala	Leu	Thr	Leu	Glu	Ser	Ser	Ala	Leu	Cys	Glu
				645					650					655	
Phe	His	Pro	Tyr	Gln	Gln	Gly	Val	Leu	Arg	Ile	His	Lys	Gln	Ser	Phe
				660					665					670	
Ala	Thr	Leu	Gly	Gln	Val	His	Pro	Glu	Leu	Ala	Lys	Lys	Ala	Gln	Ile
				675				680						685	
Lys	His	Pro	Val	Phe	Phe	Ala	Glu	Leu	Asn	Leu	Asp	Leu	Leu	Cys	Lys
				690			695				700				
Met	Leu	Lys	Lys	Thr	Thr	Lys	Leu	Tyr	Lys	Pro	Tyr	Ala	Ile	Tyr	Pro
705					710					715					720
Ser	Ser	Phe	Arg	Asp	Leu	Thr	Leu	Thr	Val	Pro	Glu	Asp	Ile	Pro	Ala
				725					730					735	
Asn	Leu	Leu	Arg	Gln	Lys	Leu	Leu	His	Glu	Gly	Ser	Lys	Trp	Leu	Glu
				740				745						750	
Ser	Val	Thr	Ile	Ile	Ser	Ile	Tyr	Gln	Asp	Lys	Ser	Leu	Glu	Thr	Arg
				755			760						765		
Asn	Lys	Asn	Val	Ser	Leu	Arg	Leu	Val	Phe	Gln	Asp	Tyr	Glu	Arg	Thr
						775					780				
Leu	Ser	Asn	Gln	Asp	Ile	Glu	Glu	Glu	Tyr	Cys	Arg	Leu	Val	Ala	Leu
785					790					795					800
Leu	Asn	Glu	Leu	Leu	Thr	Asp	Thr	Lys	Gly	Thr	Ile	Asn	Ser		
				805					810						

<210> 597

<211> 328

<212> PRT

<213> Chlamydia pneumoniae

<400> 597

Arg	Asp	Tyr	Gln	Phe	Met	Lys	Gln	Leu	Leu	Phe	Cys	Val	Cys	Val	Phe
1				5					10					15	
Ala	Met	Ser	Cys	Ser	Ala	Tyr	Ala	Ser	Pro	Arg	Arg	Gln	Asp	Pro	Ser
			20					25					30		
Val	Met	Lys	Glu	Thr	Phe	Arg	Asn	Asn	Tyr	Gly	Ile	Ile	Val	Ser	Gly
			35				40					45			
Gln	Glu	Trp	Val	Lys	Arg	Gly	Ser	Asp	Gly	Thr	Ile	Thr	Lys	Val	Leu
			50			55					60				
Lys	Asn	Gly	Ala	Thr	Leu	His	Glu	Val	Tyr	Ser	Gly	Gly	Leu	Leu	His
65					70					75					80
Gly	Glu	Ile	Thr	Leu	Thr	Phe	Pro	His	Thr	Thr	Ala	Leu	Asp	Val	Val
				85					90					95	
Gln	Ile	Tyr	Asp	Gln	Gly	Arg	Leu	Val	Ser	Arg	Lys	Thr	Phe	Phe	Val
			100					105					110		
Asn	Gly	Leu	Pro	Ser	Gln	Glu	Glu	Leu	Phe	Asn	Glu	Asp	Gly	Thr	Phe
			115				120					125			
Val	Leu	Thr	Arg	Trp	Pro	Asp	Asn	Asn	Asp	Ser	Asp	Thr	Ile	Thr	Lys
			130			135					140				
Pro	Tyr	Phe	Ile	Glu	Thr	Thr	Tyr	Gln	Gly	His	Val	Ile	Glu	Gly	Ser
145					150					155					160
Tyr	Thr	Ser	Phe	Asn	Gly	Lys	Tyr	Ser	Ser	Ser	Ile	His	Asn	Gly	Glu
				165					170					175	
Gly	Val	Arg	Ser	Val	Phe	Ser	Ser	Asn	Asn	Ile	Leu	Leu	Ser	Glu	Glu
			180					185					190		
Thr	Phe	Asn	Glu	Gly	Val	Met	Val	Lys	Tyr	Thr	Thr	Phe	Tyr	Pro	Asn
			195				200					205			
Arg	Asp	Pro	Glu	Ser	Ile	Thr	His	Tyr	Gln	Asn	Gly	Gln	Pro	His	Gly
210						215					220				

Leu	Arg	Leu	Thr	Tyr	Leu	Gln	Gly	Gly	Ile	Pro	Asn	Thr	Ile	Glu	Glu
225					230					235				240	
Trp	Arg	Tyr	Gly	Phe	Gln	Asp	Gly	Thr	Thr	Ile	Val	Phe	Lys	Asn	Gly
			245						250					255	
Cys	Lys	Thr	Ser	Glu	Ile	Ala	Tyr	Val	Lys	Gly	Val	Lys	Glu	Gly	Leu
			260					265					270		
Glu	Leu	Arg	Tyr	Asn	Glu	Gln	Glu	Ile	Val	Ala	Glu	Glu	Val	Ser	Trp
		275					280					285			
Arg	Asn	Asp	Phe	Leu	His	Gly	Glu	Arg	Lys	Ile	Tyr	Ala	Gly	Gly	Ile
	290					295				300					
Gln	Lys	His	Glu	Trp	Tyr	Tyr	Arg	Gly	Arg	Ser	Val	Ser	Lys	Ala	Lys
305					310					315					320
Phe	Glu	Arg	Leu	Asn	Ala	Ala	Gly								
				325											

<210> 598  
 <211> 176  
 <212> PRT  
 <213> Chlamydia pneumoniae

Phe	Ala	Val	Met	Ala	Asp	Asp	Thr	Leu	Ile	Pro	Lys	Leu	Met	Lys	Asn
1				5					10					15	
Ser	Leu	Ser	Gln	Ala	Cys	Ser	Glu	Gly	Leu	Leu	Ile	Ala	Lys	Tyr	Pro
			20					25					30		
Pro	Leu	Gln	Val	Ile	Val	His	Phe	Asp	Asn	Asn	Leu	Val	Val	Lys	Thr
		35					40					45			
His	Leu	Ser	Val	Ala	Pro	Val	Phe	Ser	Cys	Leu	Phe	Leu	Gly	Pro	Ala
	50					55				60					
Ala	His	Lys	Ala	Met	Gln	Glu	Ile	Val	Leu	Trp	Cys	Ser	Arg	Tyr	Ala
65					70					75					80
Asn	Lys	Glu	His	Pro	Pro	Phe	Ser	Ser	His	Phe	Ala	Lys	Asp	Leu	Ile
			85					90						95	
Pro	Ser	Gln	Tyr	Leu	Glu	Ile	Leu	Asn	Cys	Val	Ala	Glu	Ile	Pro	Phe
		100					105						110		
Gly	Glu	Gln	Gln	Thr	Tyr	Ala	Glu	Ile	Ala	Lys	Lys	Thr	Asp	Thr	His
		115					120					125			
Pro	Arg	Thr	Val	Gly	Ala	Ala	Cys	Lys	Gln	Asn	Pro	Phe	Leu	Leu	Phe
	130				135						140				
Phe	Pro	Cys	His	Arg	Val	Val	Gly	Ser	His	Gly	Glu	Arg	Asn	Tyr	Val
145					150					155					160
Leu	Gly	Pro	Val	Ile	His	Glu	Ile	Leu	Leu	Lys	Phe	Glu	Asn	Ser	Tyr
				165				170						175	

<210> 599  
 <211> 579  
 <212> PRT  
 <213> Chlamydia pneumoniae

Met	Gln	Lys	His	Pro	Ser	Phe	Tyr	Gln	Arg	Phe	Leu	Ser	Ala	Tyr	Tyr
1				5					10					15	
Lys	Asn	Leu	Leu	Ala	Ser	Leu	Ser	Trp	Lys	Phe	Phe	Ile	Ser	Val	Ala
			20					25					30		
Leu	Ile	Gly	Ile	Tyr	Ala	Pro	Leu	Phe	Ala	Ser	Ser	Lys	Pro	Leu	Leu
		35					40					45			
Val	Thr	Trp	His	Gly	Glu	Ile	Phe	Phe	Pro	Leu	Leu	Arg	Tyr	Leu	Phe
	50					55					60				
Phe	Pro	Gly	Tyr	Tyr	Thr	Lys	Pro	Val	Asp	Leu	Phe	Phe	Asn	Val	Leu
65					70					75					80

Met	Val	Thr	Phe	Pro	Phe	Phe	Ile	Leu	Ser	Phe	Lys	Leu	Thr	Arg	Gly	85	90	95
Trp	Leu	Arg	Arg	Trp	Leu	Leu	Gly	Leu	Cys	Ile	Ile	Ser	Gln	Cys	Met	100	105	110
Ile	Phe	Ala	Trp	Ala	Tyr	Ser	Gly	Lys	Val	Gln	Asp	Pro	Ala	Leu	Ala	115	120	125
Glu	Asn	Leu	Lys	Lys	Met	Arg	Ala	Glu	Lys	Val	Arg	Glu	Asn	Ile	Ser	130	135	140
Lys	Val	Asn	Ser	Glu	Met	Val	Met	Leu	Leu	Pro	Lys	Asp	Thr	Arg	Thr	145	150	155
Trp	Glu	Met	Glu	Arg	Arg	Tyr	Met	Ser	Thr	Tyr	Glu	Gln	Leu	Gly	Ile	165	170	175
Leu	Ile	Lys	Ala	Lys	Tyr	Arg	Lys	Lys	Gln	Glu	Ala	Ser	Val	Lys	Lys	180	185	190
Tyr	Gln	Val	Ala	Phe	Glu	Glu	Lys	Arg	Gln	Ser	Pro	Met	Pro	Thr	Leu	195	200	205
Arg	His	Leu	Glu	Met	Lys	Asn	Glu	Gly	Ile	Cys	Leu	Lys	Arg	Leu	Gln	210	215	220
Gln	Arg	Val	Asp	Lys	Met	Gln	Arg	Pro	Tyr	Glu	Met	Ala	Gln	Gln	Ala	225	230	235
Trp	Asn	Arg	Ala	Thr	Asp	Asn	Tyr	Arg	Pro	Phe	Leu	Met	Ala	Leu	Thr	245	250	255
Arg	Ile	Glu	His	Glu	Leu	Arg	Leu	Ala	Asp	Tyr	Asn	Asn	Trp	Gly	Gln	260	265	270
Pro	Glu	Asp	Leu	Cys	Ile	Ala	Tyr	Ala	Asn	Val	Glu	Lys	Arg	Ala	Glu	275	280	285
Pro	Tyr	Lys	Lys	Ser	Leu	Leu	Glu	Ile	Arg	Gln	Val	Leu	Glu	Asp	Tyr	290	295	300
Ala	Lys	Leu	Arg	Ser	Ala	Ile	Ser	Phe	Ile	Gln	Asp	Lys	Arg	Leu	Trp	305	310	315
Ile	Glu	Lys	Glu	Ser	Glu	Asp	Leu	Arg	Ile	Leu	Ile	Asn	Pro	Phe	Phe	325	330	335
Ser	Ser	Phe	His	Trp	Glu	Asp	Asp	Ala	Gly	Gly	Ser	Arg	Glu	Met	Asn	340	345	350
Lys	Tyr	Val	Pro	Trp	Trp	Gln	Leu	Ser	Arg	Val	Thr	Arg	Lys	Asp	Leu	355	360	365
Leu	Ala	Ala	Leu	Val	Phe	Gly	Ile	Arg	Ile	Ala	Leu	Val	Val	Ala	Gly	370	375	380
Ile	Gly	Ile	Thr	Ile	Ala	Leu	Ala	Ile	Gly	Ile	Met	Ile	Gly	Leu	Val	385	390	395
Ser	Gly	Tyr	Phe	Gly	Gly	Thr	Val	Asp	Met	Ile	Leu	Ser	Arg	Phe	Thr	405	410	415
Glu	Ile	Trp	Glu	Thr	Met	Pro	Val	Leu	Phe	Ile	Leu	Met	Leu	Val	Ile	420	425	430
Ser	Ile	Thr	Gln	Gln	Lys	Ser	Leu	Leu	Asn	Thr	Val	Leu	Leu	Gly		435	440	445
Cys	Phe	Ser	Trp	Thr	Gly	Phe	Ser	Arg	Tyr	Val	Arg	Ile	Glu	Val	Leu	450	455	460
Lys	Gln	Arg	Asp	Arg	Gly	Tyr	Val	Leu	Ala	Ala	Thr	Asn	Leu	Gly	Tyr	465	470	475
Ser	His	Tyr	Tyr	Ile	Met	Val	His	Gln	Ile	Leu	Pro	Asn	Ala	Ile	Val	485	490	495
Pro	Val	Ile	Ser	Leu	Val	Pro	Phe	Ala	Met	Met	Ala	Met	Ile	Ser	Cys	500	505	510
Glu	Ala	Gly	Leu	Thr	Phe	Leu	Gly	Leu	Gly	Glu	Glu	Ser	Ser	Ala	Ser	515	520	525
Trp	Gly	Asn	Leu	Met	Arg	Glu	Gly	Val	Thr	Gly	Phe	Pro	Ala	Glu	Ser	530	535	540
Ala	Val	Leu	Trp	Pro	Pro	Ala	Ile	Ile	Leu	Thr	Met	Leu	Leu	Ile	Ala	545	550	555

Ile Ala Leu Ile Gly Asp Gly Val Arg Asp Ala Leu Asp Pro Arg Leu  
565 570 575  
Gln Asp Ser

<210> 600  
<211> 498  
<212> PRT  
<213> Chlamydia pneumoniae

<400> 600  
Glu Glu Gly Gly Ser Val Leu Lys Tyr Ile Leu Lys Arg Leu Val Leu  
1 5 10 15  
Ile Pro Leu Thr Leu Phe Ala Ile Val Ser Ile Asn Phe Val Ile Leu  
20 25 30  
Asn Ala Ala Pro Gly Asp Val Leu Glu Glu Lys Ser Arg Asp Ala Leu  
35 40 45  
Gly Glu Ala Gly Lys Ser Asp Lys Met Arg Ser Tyr Lys Gly Pro Asp  
50 55 60  
Arg Tyr Leu Gln Phe Arg Glu His Tyr Gly Leu Thr Leu Pro Ile Phe  
65 70 75 80  
Phe Asn Thr Arg Pro Lys Ile Thr His Lys Lys Ile Gln Thr Ala Leu  
85 90 95  
Gln Glu Leu Ala Asn Ala Asn Asn Thr Thr Pro Ser Ala Lys Asn Ala  
100 105 110  
Ala Lys Ser Leu Val Tyr Trp Gly Asp Cys Ala Lys Phe Val Met Pro  
115 120 125  
Ala Leu Leu Phe Glu Ala Asp Asp Ala Ser Arg Asp Asp Lys Tyr Arg  
130 135 140  
His Ile Ala Ala Asp Leu Phe Ile Arg Gly Gly Val Leu Gln Gly Phe  
145 150 155 160  
Val Gly Pro Asn Leu Ser Pro Glu Gln Arg Ala Gln Asn Lys Glu Ile  
165 170 175  
Ala Glu Ser Asn Ala Phe Leu Val Arg Gln Leu Asn Glu Glu Asp Leu  
180 185 190  
Asp Thr Lys Val Glu Ala Leu Lys Gly Trp Phe Gln Asp His Gly Gly  
195 200 205  
Thr Glu Val Phe Cys Tyr Ser Ser Lys Gln Phe Trp Lys Thr Phe Phe  
210 215 220  
Leu Glu Thr Arg Phe Ala Arg Tyr Met Ser Arg Val Leu Arg Leu Asp  
225 230 235 240  
Phe Gly Thr Leu Arg Asn Asp Ala His Lys Thr Val Ile Ser Glu Val  
245 250 255  
Ile Lys Arg Leu Arg Cys Ser Leu Val Leu Ser Ile Leu Pro Met Ile  
260 265 270  
Val Gly Phe Val Leu Cys Gln Ile Phe Gly Met Ile Met Ala Leu Lys  
275 280 285  
Arg Asn Arg Trp Ile Asp His Ser Leu Asn Phe Ile Phe Leu Ile Leu  
290 295 300  
Phe Ser Ile Pro Val Phe Val Ala Val Pro Trp Ile Leu Asp Asn Phe  
305 310 315 320  
Val Ile Asn Lys Thr Ile Pro Phe Thr Thr Ile Pro Met Pro Tyr Ser  
325 330 335  
Gly Leu Arg Ser Pro Pro Glu Val Phe Asn Glu Leu Ser Thr Leu Gly  
340 345 350  
Arg Ile Phe Asp Leu Val Ser His Gly Phe Leu Pro Phe Cys Ala Val  
355 360 365  
Ser Tyr Gly Ala Leu Ala Ala Gln Ser Arg Leu Ser Arg Ser Ile Phe  
370 375 380  
Leu Glu Val Leu Ser Gln Asp Phe Ile Cys Ala Ala Lys Ala Arg Gly  
385 390 395 400

Leu Arg Trp Phe Asp Ile Leu Tyr Lys His Val Gly Lys Asn Ala Ala  
                   405                  410                  415  
 Val Ser Ile Val Thr Ser Leu Ala Ser Ser Leu Gly Thr Leu Leu Gly  
                   420                  425                  430  
 Gly Ala Leu Val Val Glu Thr Leu Phe Asn Ile Asp Gly Phe Gly Asn  
                   435                  440                  445  
 Phe Phe Tyr Gln Ala Ile Leu Asn Arg Asp His Asn Val Val Leu Phe  
                   450                  455                  460  
 Ser Val Leu Val Gly Ser Ala Leu Ser Leu Val Gly Tyr Leu Leu Gly  
                   465                  470                  475                  480  
 Asp Ile Cys Tyr Val Leu Leu Asp Pro Arg Val Gln Leu Glu Gly Arg  
                   485                  490                  495  
 Arg Ile

<210> 601  
 <211> 714  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 601  
 Lys Arg Arg Glu Ser Gly His Met Tyr Lys Arg Cys Val Leu Asp Lys  
   1                  5                  10                  15  
 Ile Leu Lys Gly Ile Val Ala Gly Ser Leu Ile Leu Leu Tyr Trp Ser  
                   20                  25                  30  
 Ser Asp Leu Leu Glu Arg Asp Ile Lys Ser Ile Lys Gly Asn Val Arg  
                   35                  40                  45  
 Asp Ile Gln Glu Asp Ile Arg Glu Ile Ser Arg Val Val Lys Gln Gln  
                   50                  55                  60  
 Gln Thr Ser Gln Ala Ile Pro Ala Ala Pro Gly Val Met Leu Ala Pro  
                   65                  70                  75                  80  
 Lys Leu Val Arg Asp Glu Ala Phe Ala Leu Leu Phe Gly Asp Pro Ser  
                   85                  90                  95  
 Tyr Pro Asn Leu Leu Ser Leu Asp Pro Tyr Lys Gln Gln Thr Leu Pro  
                   100                  105                  110  
 Glu Leu Leu Gly Thr Asn Phe His Pro His Gly Ile Leu Arg Thr Ala  
                   115                  120                  125  
 His Val Gly Lys Pro Glu Asn Leu Ser Pro Phe Asn Gly Phe Asp Tyr  
                   130                  135                  140  
 Val Val Gly Phe Tyr Asp Leu Cys Ile Pro Ser Leu Ala Ser Pro His  
                   145                  150                  155                  160  
 Val Gly Lys Tyr Glu Glu Phe Ser Pro Asp Leu Ala Val Lys Ile Glu  
                   165                  170                  175  
 Glu His Leu Val Glu Asp Gly Ser Gly Asp Lys Glu Phe His Ile Tyr  
                   180                  185                  190  
 Leu Arg Pro Asn Val Phe Trp Arg Pro Ile Asp Pro Lys Ala Leu Pro  
                   195                  200                  205  
 Lys His Val Gln Leu Asp Glu Val Phe Gln Arg Pro His Pro Val Thr  
                   210                  215                  220  
 Ala His Asp Ile Lys Phe Phe Tyr Asp Ala Val Met Asn Pro Tyr Val  
                   225                  230                  235                  240  
 Ala Thr Met Arg Ala Val Ala Leu Arg Ser Cys Tyr Glu Asp Val Val  
                   245                  250                  255  
 Ser Val Ser Val Glu Asn Asp Leu Lys Leu Val Val Arg Trp Lys Ala  
                   260                  265                  270  
 His Thr Val Ile Asn Glu Glu Gly Lys Glu Glu Arg Lys Val Leu Tyr  
                   275                  280                  285  
 Ser Ala Phe Ser Asn Thr Leu Ser Leu Gln Pro Leu Pro Arg Phe Val  
                   290                  295                  300  
 Tyr Gln Tyr Phe Ala Asn Gly Glu Lys Ile Ile Glu Asp Glu Asn Ile  
                   305                  310                  315                  320

Asp	Thr	Tyr	Arg	Thr	Asn	Ser	Ile	Trp	Ala	Gln	Asn	Phe	Thr	Met	His
				325					330					335	
Trp	Ala	Asn	Asn	Tyr	Ile	Val	Ser	Cys	Gly	Ala	Tyr	Tyr	Phe	Ala	Gly
			340					345					350		
Met	Asp	Asp	Glu	Lys	Ile	Val	Phe	Ser	Arg	Asn	Pro	Asp	Phe	Tyr	Asp
		355					360					365			
Pro	Leu	Ala	Ala	Leu	Ile	Asp	Lys	Arg	Phe	Val	Tyr	Phe	Lys	Glu	Ser
	370					375					380				
Thr	Asp	Ser	Leu	Phe	Gln	Asp	Phe	Lys	Thr	Gly	Lys	Ile	Asp	Ile	Ser
385					390					395					400
Tyr	Leu	Pro	Pro	Asn	Gln	Arg	Asp	Asn	Phe	Tyr	Ser	Phe	Met	Lys	Ser
				405					410					415	
Ser	Ala	Tyr	Asn	Lys	Gln	Val	Ala	Lys	Gly	Gly	Ala	Val	Arg	Glu	Thr
			420					425					430		
Val	Ser	Ala	Asp	Arg	Ala	Tyr	Thr	Tyr	Ile	Gly	Trp	Asn	Cys	Phe	Ser
		435					440					445			
Leu	Phe	Phe	Gln	Ser	Arg	Gln	Val	Arg	Cys	Ala	Met	Asn	Met	Ala	Ile
	450					455				460					
Asp	Arg	Glu	Arg	Ile	Ile	Glu	Gln	Cys	Leu	Asp	Gly	Gln	Gly	Tyr	Thr
465					470					475					480
Ile	Ser	Gly	Pro	Phe	Ala	Ser	Ser	Ser	Pro	Ser	Tyr	Asn	Lys	Gln	Ile
				485					490					495	
Glu	Gly	Trp	His	Tyr	Ser	Pro	Glu	Glu	Ala	Ala	Arg	Leu	Leu	Glu	Glu
			500					505					510		
Glu	Gly	Trp	Ile	Asp	Thr	Asp	Gly	Asp	Gly	Ile	Arg	Glu	Lys	Val	Ile
		515					520					525			
Asp	Gly	Val	Ile	Val	Pro	Phe	Arg	Phe	Arg	Leu	Cys	Tyr	Tyr	Val	Lys
	530					535					540				
Ser	Val	Thr	Ala	His	Thr	Ile	Ala	Asp	Tyr	Val	Ala	Thr	Ala	Cys	Lys
545					550					555					560
Glu	Ile	Gly	Ile	Glu	Cys	Ser	Leu	Leu	Gly	Leu	Asp	Met	Ala	Asp	Leu
				565					570					575	
Ser	Gln	Ala	Phe	Asp	Glu	Lys	Asn	Phe	Asp	Ala	Leu	Leu	Met	Gly	Trp
			580					585					590		
Cys	Leu	Gly	Ile	Pro	Pro	Glu	Asp	Pro	Arg	Ala	Leu	Trp	His	Ser	Glu
	595						600					605			
Gly	Ala	Met	Glu	Lys	Gly	Ser	Ala	Asn	Val	Val	Gly	Phe	His	Asn	Glu
	610					615					620				
Glu	Ala	Asp	Lys	Ile	Ile	Asp	Arg	Leu	Ser	Tyr	Glu	Tyr	Asp	Leu	Lys
625					630					635					640
Glu	Arg	Asn	Arg	Leu	Tyr	His	Arg	Phe	His	Glu	Ile	Ile	His	Glu	Glu
				645					650					655	
Ala	Pro	Tyr	Ala	Phe	Leu	Phe	Ser	Arg	His	Cys	Ser	Leu	Leu	Tyr	Lys
			660					665					670		
Asp	Tyr	Val	Lys	Asn	Ile	Phe	Val	Pro	Thr	His	Arg	Thr	Asp	Leu	Ile
		675					680					685			
Pro	Glu	Ala	Gln	Asp	Glu	Thr	Val	Asn	Val	Thr	Met	Val	Trp	Leu	Glu
	690					695					700				
Lys	Lys	Glu	Asp	Pro	Cys	Leu	Ser	Thr	Ser						
705					710										

<210> 602

<211> 110

<212> PRT

<213> Chlamydia pneumoniae

<400> 602

His	Gly	Tyr	Met	Lys	Ile	Lys	Lys	Ser	Phe	Gln	Tyr	Ser	Leu	Cys	Gln
1				5				10					15		
Ala	Lys	Arg	Phe	Gln	Asn	Met	Leu	Pro	Asn	His	Phe	Asp	Pro	Cys	Leu
			20					25					30		



Gln	Pro	Val	Asn	Leu	Gln	Leu	Lys	Gln	Asp	Arg	Leu	Ala	Tyr	Gly	Glu
		35					40					45			
Leu	Ile	Ile	Leu	Leu	Ser	Lys	Tyr	Gln	Gln	Lys	Thr	Phe	Ser	Ser	Leu
	50					55					60				
Leu	Lys	Glu	Glu	Thr	Cys	Ser	Leu	Asn	Arg	Ala	Lys	Gln	His	Leu	Leu
65					70					75					80
Tyr	Lys	Ile	Leu	Arg	Asp	Phe	Asn	Thr	Met	Gln	His	Leu	Arg	Ser	Leu
				85					90					95	
Gly	Leu	Asn	Gly	Trp	Gly	Glu	Ile	Pro	Met	Ser	Pro	Cys	Leu		
		100						105					110		

<210> 603

<211> 119

<212> PRT

<213> Chlamydia pneumoniae

<400> 603

Gln	Phe	Pro	Arg	Ile	His	Ala	Asp	Asp	Ile	Ile	Asn	Ser	Met	Asp	Glu
1				5					10					15	
Ile	Thr	Pro	Asn	Tyr	Pro	Leu	Leu	Arg	Gln	Asp	Ser	Leu	Trp	Asn	Arg
			20					25					30		
Val	Arg	Val	Ser	Trp	Arg	Ala	Asp	Leu	Ser	Val	Ser	Ser	Arg	Tyr	Glu
		35					40					45			
Ile	Ala	Ser	Ala	Ile	Ala	Ile	Leu	Gly	Leu	Leu	Val	Ala	Phe	Cys	Ala
	50					55					60				
Ser	Ala	Ala	Val	Ser	Ile	Ile	Phe	Thr	Ala	Asn	Pro	Leu	Ala	Gln	Val
65					70					75					80
Phe	Ile	Asp	Gly	Cys	Leu	Ala	Leu	Gly	Leu	Leu	Pro	Ile	Pro	Leu	Val
				85					90					95	
Ile	Gly	Leu	Leu	Ile	Ile	Gly	Ile	Ile	Val	Leu	Leu	Tyr	Gly	Ile	Tyr
			100					105					110		
Leu	Phe	Pro	Gln	Gln	Arg	Glu									
															115

<210> 604

<211> 338

<212> PRT

<213> Chlamydia pneumoniae

<400> 604

Asp	Ser	Gly	Phe	Met	Lys	Pro	Leu	Gly	Phe	Gln	Glu	Asn	Leu	Glu	Ala
1				5					10					15	
Leu	Cys	Asn	Lys	Thr	Ser	Arg	Gln	Leu	Leu	Lys	Tyr	Leu	Ile	Lys	Gln
			20					25					30		
Ile	Leu	Phe	Val	Cys	Gly	Ala	Ser	Leu	Leu	Ile	Ala	Leu	Glu	Phe	Ser
		35					40					45			
Phe	Phe	Leu	Tyr	Phe	Phe	Leu	Phe	Ser	Gly	Lys	Thr	Val	Ile	Pro	Ala
	50					55					60				
Phe	Cys	Leu	Ala	Cys	Phe	Phe	Leu	Thr	Leu	Phe	Val	Cys	Leu	Val	Thr
65					70					75					80
Arg	Leu	Tyr	Leu	Leu	Ser	Gly	Lys	Gly	Asp	Phe	Phe	Glu	Asp	Leu	Ala
				85					90					95	
Ser	Glu	Tyr	Leu	Gln	Gly	Ala	Val	Pro	Pro	Asn	Lys	Arg	Ser	Gln	Asn
			100					105					110		
Ile	Val	Glu	Glu	Gln	Ser	His	Leu	Ala	Ala	Ala	Ala	Thr	Lys	Leu	Ser
		115					120					125			
Ile	Asn	Leu	Gln	Asn	Gln	Glu	Tyr	Ser	Leu	Leu	Ser	Glu	Ile	Phe	Lys
	130					135					140				
Phe	Leu	Pro	Lys	His	Asp	Leu	Ile	Arg	Lys	Phe	Ser	Cys	Phe	Cys	Phe
145					150					155					160

Trp	Lys	Asp	Tyr	Phe	Leu	Phe	Arg	Glu	Cys	Leu	Leu	Gln	Lys	Ala	Ile	
				165					170					175		
Glu	Ala	Tyr	Ile	Lys	Val	Val	Gln	Ala	Ile	Pro	Val	Asp	Leu	Ser	Ala	
			180					185					190			
His	Val	Ser	Leu	Ala	Asp	Ala	Tyr	Val	Ala	Leu	Ser	Gly	Leu	Tyr	Ala	
		195					200					205				
Asp	Pro	Arg	Lys	Tyr	Pro	Glu	Phe	Asp	Ala	Asn	Tyr	Trp	Ile	Pro	Ser	
	210					215					220					
Gly	Arg	Tyr	Ser	Ala	Glu	Ile	Gln	Glu	Lys	Phe	Phe	Ala	Thr	Ala	Arg	
225					230					235					240	
Arg	Ala	Ile	Glu	Glu	Phe	Gln	Ile	Leu	Asn	Glu	Tyr	Ala	Pro	Gly	Asn	
			245					250						255		
Ala	Trp	Val	His	Ala	Gln	Leu	Ala	Tyr	Ser	Tyr	His	Asp	Leu	Gln	Met	
		260					265					270				
Pro	Met	Glu	Ile	Gln	Glu	Tyr	Glu	Ile	Val	Leu	Lys	Leu	Lys	Pro		
	275					280					285					
Asn	Asp	Val	Glu	Thr	Met	Ser	Lys	Leu	Gly	Ile	Leu	Tyr	Phe	Gln	Gln	
	290					295					300					
Gly	Met	Asn	Ala	Lys	Gly	Leu	Arg	Ile	Tyr	Glu	Glu	Ile	Lys	Lys	Arg	
305				310					315						320	
Asp	Tyr	Lys	Lys	Ser	Gln	Lys	Leu	Ile	Lys	Phe	Tyr	Gly	Val	Glu	Tyr	
				325					330					335		

Lys Tyr

<210> 605  
 <211> 350  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 605

Trp	Lys	Ile	Met	Arg	Leu	Ile	Val	Leu	Met	Gln	Cys	Leu	Val	Ser	Leu	
1			5						10					15		
Phe	Leu	Ala	Lys	Val	Thr	Val	Thr	Thr	Pro	Ala	Tyr	Leu	Leu	Ala		
		20					25					30				
Asn	Phe	Gly	Gly	Pro	Arg	His	Ala	Lys	Asp	Leu	Gln	Glu	Phe	Leu	Ile	
	35					40					45					
Ser	Leu	Leu	Thr	Asp	Arg	Asp	Val	Thr	Gly	Thr	Phe	Leu	Pro	Arg	Val	
	50				55					60						
Leu	His	Arg	His	Leu	Phe	Thr	Phe	Ile	Ala	Lys	Lys	Arg	Val	Pro	Lys	
65				70					75					80		
Val	Leu	Pro	Gln	Tyr	Gln	Ser	Leu	Gln	Asn	Trp	Ser	Pro	Ile	Tyr	Phe	
			85					90					95			
Asp	Thr	Glu	Thr	Leu	Ala	Lys	Thr	Leu	Ser	Glu	Ile	Leu	Arg	Ala	Pro	
		100					105						110			
Val	Ile	Pro	Phe	His	Arg	Tyr	Leu	Pro	Ser	Thr	His	Glu	Lys	Thr	Leu	
	115					120						125				
Leu	Ala	Leu	Arg	Thr	Leu	His	Thr	Arg	His	Val	Ile	Gly	Ile	Pro	Leu	
	130				135					140						
Phe	Pro	His	Phe	Thr	Tyr	Ser	Val	Thr	Gly	Ser	Ile	Val	Arg	Phe	Phe	
145				150					155					160		
Met	Lys	His	Val	Pro	Glu	Ile	Pro	Ile	Ser	Trp	Ile	Pro	Gln	Phe	Gly	
			165					170						175		
Ser	Asp	Ser	Lys	Phe	Val	Ser	Leu	Ile	Thr	Cys	His	Ile	Arg	Asp	Phe	
	180						185					190				
Leu	Gln	Lys	Leu	Gly	Ile	Leu	Glu	Lys	Glu	Cys	Cys	Phe	Leu	Phe	Ser	
	195					200						205				
Val	His	Gly	Leu	Pro	Val	Arg	Tyr	Ile	Ser	Gln	Gly	Asp	Pro	Tyr	Ser	
	210					215					220					
Lys	Gln	Cys	Tyr	Glu	Ser	Phe	Ser	Ala	Ile	Thr	Thr	Asn	Phe	Lys	Gln	
225				230						235					240	



<400> 607

Leu	Arg	Lys	Leu	Cys	Ser	Ser	Arg	Gly	Asp	Val	Arg	Ile	Leu	Ala	Gly
1				5					10					15	
Lys	Tyr	Lys	Gly	Lys	Ser	Leu	Lys	Thr	Phe	Ser	Asn	Pro	His	Ile	Arg
			20					25					30		
Pro	Thr	Ser	Gly	Leu	Val	Lys	Glu	Ala	Phe	Phe	Ser	Ile	Cys	Arg	Glu
		35					40					45			
Asp	Ile	Glu	Gly	Ala	Ala	Phe	Leu	Asp	Leu	Phe	Ala	Gly	Met	Gly	Ala
	50					55					60				
Ile	Gly	Phe	Glu	Ala	Leu	Ser	Arg	Gly	Ala	Ala	Ser	Val	Val	Phe	Val
65					70					75					80
Asp	Ile	Ser	Ile	Lys	Ala	Ile	Gln	Leu	Ile	His	Thr	Asn	Ser	Ala	Leu
				85					90					95	
Leu	Gly	Glu	Gln	Leu	Pro	Val	Val	Ile	Phe	Arg	Gln	Asp	Ala	Gln	Ser
			100					105					110		
Ala	Ile	Gln	Arg	Leu	Ile	Lys	Gln	Lys	Arg	Ser	Phe	Asp	Leu	Ile	Tyr
		115					120					125			
Ile	Asp	Pro	Pro	Tyr	Glu	Leu	Cys	Asn	Cys	Tyr	Val	Glu	Thr	Leu	Leu
	130					135					140				
Gln	Lys	Ile	Val	Ser	Gly	Asn	Ile	Leu	Asn	Pro	Glu	Gly	Thr	Leu	Phe
145					150					155					160
Leu	Glu	Asn	Ala	Ser	Asp	Glu	Glu	Ile	Ala	Cys	Glu	Gly	Leu	Thr	Leu
			165						170					175	
Arg	Arg	Arg	Arg	Lys	Leu	Gly	Lys	Thr	Tyr	Leu	Ala	Glu	Tyr	Ile	Val
			180					185					190		
Glu	Lys	Asp	Pro												
		195													

<210> 608  
 <211> 262  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 608

Ser	Ser	Tyr	Ser	Arg	Arg	Gln	Leu	Arg	Phe	Tyr	Thr	Gly	Ser	Leu	Gln
1				5					10					15	
Met	His	Ile	Tyr	Gly	Leu	Ala	Asp	Leu	His	Leu	Ala	Leu	Gly	Val	Pro
			20					25					30		
Glu	Lys	Thr	Met	Glu	Val	Phe	Gly	Asp	Pro	Trp	Ile	Gly	Tyr	His	Gln
		35					40					45			
Lys	Ile	Cys	Ser	Glu	Trp	Gln	Ala	Val	Val	His	Pro	Glu	Asp	Ile	Val
	50				55						60				
Leu	Leu	Pro	Gly	Asp	Ile	Ser	Trp	Ala	Met	Asn	Leu	Ser	Glu	Ala	His
65				70						75					80
Lys	Asp	Phe	Ala	Phe	Ile	Gly	Asp	Leu	Pro	Gly	Thr	Lys	Tyr	Met	Ile
			85					90						95	
Arg	Gly	Asn	His	Asp	Tyr	Trp	Ser	Ser	Ala	Ser	Thr	Ser	Lys	Ile	Leu
		100					105						110		
Gln	Ala	Leu	Pro	Pro	Ser	Leu	Tyr	Tyr	Leu	Asn	Gln	Gly	Phe	Ala	Leu
		115					120					125			
Leu	Thr	Pro	His	Leu	Ala	Val	Val	Gly	Val	Arg	Leu	Trp	Asp	Ser	Pro
	130					135						140			
Thr	Ile	Cys	Val	Lys	Lys	Glu	Asn	Phe	Leu	Thr	Pro	Ser	Thr	Gln	Glu
145					150					155					160
Gln	Ser	Tyr	Thr	Glu	Gln	Asp	Glu	Lys	Ile	Phe	Leu	Arg	Glu	Leu	Gly
			165					170						175	
Arg	Leu	Lys	Arg	Ala	Phe	Ala	Ala	Leu	Pro	Lys	Glu	Val	Thr	Glu	Val
			180					185					190		
Ile	Val	Met	Thr	His	Tyr	Pro	Pro	Ile	Ser	Ser	Asp	Gly	Thr	Pro	Gly
		195					200					205			

Pro Ile Ser Glu Phe Leu Glu Ala Asp Gly Arg Val Ser Leu Cys Leu  
 210 215 220  
 Phe Gly His Ile His Lys Val Gln Arg Pro Ile Asp Gly Phe Gly Asn  
 225 230 235 240  
 Ile Arg Gly Ile His Tyr Ile Leu Val Ala Ala Asp Tyr Val Asn Phe  
 245 250 255  
 Val Pro Gln Glu Val Met  
 260

<210> 609  
 <211> 446  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 609  
 Asn Arg Arg Ile Gln Met Ile Glu Asn Asp Phe Pro Glu Ala Ser Asn  
 1 5 10 15  
 Phe Glu Ser Ser His Phe Tyr Arg Asp Lys Val Gly Val Ile Ile Leu  
 20 25 30  
 Cys Gly Gly Glu Gly Lys Arg Leu Ser Pro Leu Thr Asn Cys Arg Cys  
 35 40 45  
 Lys Pro Thr Val Ser Phe Gly Gly Arg Tyr Lys Leu Ile Asp Ile Pro  
 50 55 60  
 Ile Ser His Ala Ile Ser Ala Gly Phe Ser Lys Ile Phe Val Ile Gly  
 65 70 75 80  
 Gln Tyr Leu Thr Tyr Thr Leu Gln Gln His Leu Phe Lys Thr Tyr Phe  
 85 90 95  
 Tyr His Gly Val Leu Gln Asp Gln Ile His Leu Leu Ala Pro Glu Ala  
 100 105 110  
 Arg Gln Gly Asp Gln Ile Trp Tyr Gln Gly Thr Ala Asp Ala Ile Arg  
 115 120 125  
 Lys Asn Leu Leu Tyr Phe Glu Asp Thr Glu Ile Glu Tyr Phe Leu Ile  
 130 135 140  
 Leu Ser Gly Asp Gln Leu Tyr Asn Met Asp Phe Arg Ser Ile Val Asp  
 145 150 155 160  
 Thr Ala Ile Arg Thr His Val Asp Met Val Leu Val Ala Gln Pro Ile  
 165 170 175  
 Pro Glu Lys Asp Ala Tyr Arg Met Gly Val Leu Asp Ile Asp Ser Glu  
 180 185 190  
 Gly Lys Leu Ile Asp Phe Tyr Glu Lys Pro Gln Glu Lys Glu Val Leu  
 195 200 205  
 Lys Arg Phe Gln Leu Ser Ser Glu Asp Arg Arg Ile His Lys Leu Thr  
 210 215 220  
 Glu Asp Ser Gly Asp Phe Leu Gly Ser Met Gly Ile Tyr Leu Phe Arg  
 225 230 235 240  
 Arg Asp Ser Leu Phe Ser Leu Leu Arg Glu Glu Glu Gly Asn Asp Phe  
 245 250 255  
 Gly Lys His Leu Ile Gln Ala Gln Met Lys Arg Gly Gln Val Gln Thr  
 260 265 270  
 Leu Leu Tyr Asn Gly Tyr Trp Ala Asp Ile Gly Thr Ile Glu Ser Tyr  
 275 280 285  
 Tyr Glu Ala Asn Ile Ala Leu Thr Gln Lys Pro His Ala Glu Lys Arg  
 290 295 300  
 Gly Leu Asn Cys Tyr Asp Asp Asn Gly Met Ile Tyr Ser Lys Asn His  
 305 310 315 320  
 His Leu Pro Gly Ala Ile Ile Thr Asp Ser Met Ile Ser Ser Ser Leu  
 325 330 335  
 Leu Cys Glu Gly Cys Val Ile Asn Thr Ser His Val Ser Arg Ser Val  
 340 345 350  
 Leu Gly Ile Arg Ser Lys Ile Gly Glu Asn Ser Val Val Asp Gln Ser  
 355 360 365

Ile Ile Met Gly Asn Ala Arg Tyr Gly Ser Pro Ser Met Pro Ser Leu  
 370 375 380  
 Gly Ile Gly Lys Asp Cys Glu Ile Arg Lys Ala Ile Ile Asp Glu Asn  
 385 390 395 400  
 Cys Cys Ile Gly Asn Gly Val Lys Leu Gln Asn Leu Lys Gly Tyr Ile  
 405 410 415  
 Lys Tyr Asp Ser Pro Asp Lys Lys Leu Phe Val Arg Asp Asn Ile Ile  
 420 425 430  
 Ile Val Pro Gln Gly Thr His Ile Pro Asp Asn Tyr Ile Phe  
 435 440 445

<210> 610  
 <211> 225  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 610  
 Val Ser Phe Leu Tyr Phe Val Lys Asn Gly Arg Arg Leu Trp Arg Met  
 1 5 10 15  
 Met Asn Tyr Glu Asp Ala Lys Leu Arg Gly Gln Ala Val Ala Ile Leu  
 20 25 30  
 Tyr Gln Ile Gly Ala Ile Lys Phe Gly Lys His Ile Leu Ala Ser Gly  
 35 40 45  
 Glu Glu Thr Pro Leu Tyr Val Asp Met Arg Leu Val Ile Ser Ser Pro  
 50 55 60  
 Glu Val Leu Gln Thr Val Ala Thr Leu Ile Trp Arg Leu Arg Pro Ser  
 65 70 75 80  
 Phe Asn Ser Ser Leu Leu Cys Gly Val Pro Tyr Thr Ala Leu Thr Leu  
 85 90 95  
 Ala Thr Ser Ile Ser Leu Lys Tyr Asn Ile Pro Met Val Leu Arg Arg  
 100 105 110  
 Lys Glu Leu Gln Asn Val Asp Pro Ser Asp Ala Ile Lys Val Glu Gly  
 115 120 125  
 Leu Phe Thr Pro Gly Gln Thr Cys Leu Val Ile Asn Asp Met Val Ser  
 130 135 140  
 Ser Gly Lys Ser Ile Ile Glu Thr Ala Val Ala Leu Glu Glu Asn Gly  
 145 150 155 160  
 Leu Val Val Arg Glu Ala Leu Val Phe Leu Asp Arg Arg Lys Glu Ala  
 165 170 175  
 Cys Gln Pro Leu Gly Pro Gln Gly Ile Lys Val Ser Ser Val Phe Thr  
 180 185 190  
 Val Pro Thr Leu Ile Lys Ala Leu Ile Ala Tyr Gly Lys Leu Ser Ser  
 195 200 205  
 Gly Asp Leu Thr Leu Ala Asn Lys Ile Ser Glu Ile Leu Glu Ile Glu  
 210 215 220  
 Ser  
 225

<210> 611  
 <211> 105  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 611  
 Gln Asn Thr Lys Asn Ser Leu Ile Arg Glu Asn Met Leu Ile Arg Leu  
 1 5 10 15  
 Phe Leu Gly Ile Ser Leu Pro Lys Gly Phe Pro Leu Tyr Leu Glu Pro  
 20 25 30  
 Pro Leu Val Leu Ala Thr Phe Gln Gly Thr Gln Phe Val Gly Thr Tyr  
 35 40 45

Ser Glu Ala Thr Asn Pro Leu Tyr Ile Asp Asn Leu Asn Leu Asn Tyr  
50 55 60  
His Tyr Thr Gln Glu Leu Tyr Lys Ala Val Pro Cys Asn Tyr Lys  
65 70 75 80  
Ser Ile Tyr Arg Glu Ile Pro Leu Ile Ile Phe Pro Glu Val Leu Ile  
85 90 95  
Gly Ser Thr Pro Thr Gln Ser Thr Glu  
100 105

<210> 612

<211> 474

<212> PRT

<213> Chlamydia pneumoniae

<400> 612

Arg Ile Phe Leu Arg Phe Lys Gly Ser Ile Met Lys Glu Glu Arg Ser  
1 5 10 15  
Ser Glu Ile Leu Pro Arg Val Lys Glu Thr Lys Lys His Ala Tyr Val  
20 25 30  
Ser Met Gln Glu Lys Ser Cys Val Gly Glu Cys Ala Val Val Ala Ser  
35 40 45  
Glu Ser Glu Glu Ala Glu Ser Val Thr Val Thr Lys Ile Ala Lys Leu  
50 55 60  
Gln Arg Met Gly Ile Glu Glu Leu Asn Ile Leu Ala Arg Gln Tyr Gly  
65 70 75 80  
Val Lys Asn Ile Gly Ser Leu Thr Lys Ser Gln Val Val Phe Glu Ile  
85 90 95  
Val Lys Ala Lys Ser Glu Arg Pro Asp Glu Leu Leu Ile Gly Glu Gly  
100 105 110  
Val Leu Glu Val Leu Pro Asp Gly Phe Gly Phe Leu Arg Ser Pro Thr  
115 120 125  
Tyr Asn Tyr Leu Pro Ser Ala Glu Asp Ile Tyr Val Ser Pro Ala Gln  
130 135 140  
Ile Arg Arg Phe Asp Leu Lys Lys Gly Asp Thr Ile Ile Gly Thr Ile  
145 150 155 160  
Arg Ser Pro Lys Glu Lys Glu Lys Tyr Phe Ala Leu Leu Lys Val Asp  
165 170 175  
Lys Ile Asn Gly Ser Thr Pro Asp Lys Ala Lys Glu Arg Val Leu Phe  
180 185 190  
Glu Asn Leu Thr Pro Leu Tyr Pro Asn Gln Arg Ile Val Met Glu Met  
195 200 205  
Gly Lys Asp His Leu Ala Glu Arg Val Leu Asp Leu Thr Ala Pro Ile  
210 215 220  
Gly Lys Gly Gln Arg Gly Leu Ile Val Ala Pro Pro Arg Ser Gly Lys  
225 230 235 240  
Thr Val Ile Leu Gln Ser Ile Ala His Ala Ile Ala Val Asn Asn Pro  
245 250 255  
Asp Ile Val Leu Ile Val Leu Leu Ile Asp Glu Arg Pro Glu Glu Val  
260 265 270  
Thr Asp Met Ile Arg Gln Val Arg Gly Glu Val Val Ala Ser Thr Phe  
275 280 285  
Asp Glu Gln Pro Glu Arg His Ile Gln Val Ala Glu Met Val Ile Glu  
290 295 300  
Lys Ala Arg Arg Leu Val Glu His Gly Asn Asp Val Val Ile Leu Leu  
305 310 315 320  
Asp Ser Ile Thr Arg Leu Ala Arg Ala Tyr Asn Thr Val Gln Pro His  
325 330 335  
Ser Gly Lys Ile Leu Thr Gly Gly Val Asp Ala Ser Ala Leu His Lys  
340 345 350  
Pro Lys Arg Phe Phe Gly Ala Ala Arg Asn Ile Glu Gly Gly Gly Ser  
355 360 365

Leu Thr Ile Leu Ala Thr Ala Leu Ile Asp Thr Gly Ser Arg Met Asp  
 370 375 380  
 Glu Val Ile Phe Glu Glu Phe Lys Gly Thr Gly Asn Met Glu Leu Val  
 385 390 395 400  
 Leu Asp Arg Arg Leu Ser Asp Arg Arg Thr Tyr Pro Ala Ile Asp Leu  
 405 410 415  
 Ile Lys Ser Gly Thr Arg Lys Glu Glu Leu Leu Tyr His Pro Ser Glu  
 420 425 430  
 Leu Glu Arg Val Tyr Leu Phe Arg Gln Ala Ile Ala Asp Leu Thr Thr  
 435 440 445  
 Ile Asp Ala Met His Leu Leu Glu Gly Arg Leu Lys Lys Thr Asn Ser  
 450 455 460  
 Asn Ala Glu Phe Leu Leu Ser Leu Lys Glu  
 465 470

<210> 613  
 <211> 238  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 613  
 Arg Arg Asn Arg Arg Asp Ala Lys Thr Ser Glu Arg Glu Asp Gly Ile  
 1 5 10 15  
 Ser Tyr Asp Phe Ile Arg Ser Tyr Ser Cys Glu Tyr Leu Asn Trp Lys  
 20 25 30  
 Lys Leu Gly Arg Met Leu Lys Leu Leu Lys Val Ser Ile Thr Gly Asp  
 35 40 45  
 Leu Ser Ser Gly Lys Thr Glu Ala Cys Gln Val Phe Gln Glu Leu Gly  
 50 55 60  
 Ala Tyr Val Val Ser Ala Asp Glu Ile Ser His Ser Phe Leu Ile Pro  
 65 70 75 80  
 His Thr Arg Ile Gly Arg Arg Val Ile Asp Leu Leu Gly Ser Asp Val  
 85 90 95  
 Val Val Asp Gly Ala Phe Asp Ala Gln Ala Ile Ala Ala Lys Val Phe  
 100 105 110  
 Tyr Asn Ser Val Leu Leu Gln Gly Leu Glu Ala Ile Leu His Pro Glu  
 115 120 125  
 Val Cys Arg Ile Ile Glu Glu Gln Tyr His Gln Ser Ile Gln Asp Gly  
 130 135 140  
 Asn Tyr Pro Leu Phe Val Ala Glu Val Pro Leu Leu Tyr Glu Ile His  
 145 150 155 160  
 Tyr Ala Lys Trp Phe Asp Ser Val Ile Leu Val Met Ala Asn Glu Asp  
 165 170 175  
 Ile Arg Arg Glu Arg Phe Met Lys Lys Thr Gly Arg Ser Ser Glu Asp  
 180 185 190  
 Phe Asp Gln Arg Cys Ser Arg Phe Leu Asn Val Glu Glu Lys Leu Ala  
 195 200 205  
 Gln Ala Asp Val Val Val Glu Asn Asn Gly Thr Lys Lys Glu Leu His  
 210 215 220  
 Gln Lys Ile Glu Glu Tyr Phe Tyr Ala Leu Lys Gly Ala Leu  
 225 230 235

<210> 614  
 <211> 889  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 614  
 Arg Cys Ile His Thr Ser Leu Leu Cys Thr Val Glu Arg Pro Arg Arg  
 1 5 10 15



Glu	Tyr	Ala	Met	Lys	Lys	Leu	Phe	Val	Leu	Asp	Ala	Ser	Gly	Phe	Ile		
			20					25					30				
Phe	Arg	Ala	Tyr	Phe	Ala	Leu	Pro	Glu	Met	Lys	Asn	His	Gln	Gly	Gln		
		35					40				45						
Ala	Thr	Gln	Ala	Val	Phe	Gly	Phe	Ile	Arg	Ser	Leu	Asn	Lys	Leu	Ile		
	50					55				60							
Lys	Glu	Phe	Ser	Pro	Glu	Tyr	Met	Ile	Ser	Val	Phe	Asp	Gly	Pro	Asn		
65					70					75					80		
Asn	Lys	Gln	Ser	Arg	Gln	Ala	Ile	Tyr	Ala	Asp	Tyr	Lys	Ser	Asn	Arg		
				85				90						95			
Gln	Lys	Lys	Phe	Glu	Asp	Ile	Pro	Pro	Gln	Ile	Ala	Leu	Val	Lys	Glu		
			100				105						110				
Tyr	Cys	Ser	Leu	Ile	Gly	Leu	Ala	Tyr	Leu	Glu	Lys	Glu	Ser	Val	Glu		
	115						120					125					
Ala	Asp	Asp	Val	Ile	Ala	Ser	Ile	Ala	Lys	Lys	Ala	Arg	Glu	Glu	Asn		
	130					135					140						
Tyr	Lys	Val	Tyr	Val	Cys	Thr	Ala	Asp	Lys	Asp	Leu	Leu	Gln	Leu	Val		
145					150					155					160		
Asn	Asp	His	Val	Val	Ala	Trp	Asn	Pro	Trp	Ala	Asp	Gln	Gly	Val	Val		
				165				170						175			
Gly	Ile	Ser	Glu	Val	Ile	Glu	Arg	Tyr	Gly	Ile	Pro	Pro	Gly	Asn	Ile		
	180						185						190				
Pro	Asp	Tyr	Leu	Ala	Leu	Val	Gly	Asp	Ser	Ser	Asp	Asn	Ile	Pro	Gly		
	195						200					205					
Leu	Pro	Gly	Cys	Gly	Pro	Lys	Lys	Ala	Ala	Ala	Leu	Leu	Lys	Gln	Phe		
	210					215					220						
Gly	Ser	Val	Glu	Gly	Leu	Glu	Asn	Leu	Asp	Ala	Val	Lys	Gly	Leu			
225					230				235					240			
Ser	Gln	Thr	Met	Leu	Ser	Glu	Arg	Gln	Glu	Thr	Leu	Lys	Leu	Ser	Lys		
				245				250						255			
Arg	Leu	Ala	Leu	Leu	Asp	Ser	Asn	Ile	Pro	Ile	Pro	Val	Pro	Ile	Glu		
			260					265					270				
Ser	Leu	Thr	Phe	Pro	Gln	His	Pro	Val	Asp	Glu	Glu	Lys	Leu	Ile	His		
	275						280					285					
Phe	Tyr	Ile	Gln	Gln	Gly	Phe	Lys	Thr	Leu	Val	Pro	Ser	Lys	Gln	Thr		
	290					295					300						
Glu	Ala	Ala	Thr	Val	Asp	Val	Gln	Ile	Ile	Lys	Asp	Ala	Glu	Ser	Leu		
305					310					315					320		
Thr	Asn	Ile	Leu	Asn	Leu	Val	Gln	Gly	Gly	Asp	Ile	Ala	Phe	Ala	Val		
				325				330						335			
Ala	Tyr	Thr	Gly	Asn	His	Leu	Leu	Ser	Leu	Lys	Leu	Glu	Gly	Leu	Ala		
			340					345					350				
Leu	Thr	Gln	Gly	Ser	Gly	Val	Phe	Ile	Ala	Leu	Glu	Glu	Glu	Gly			
	355						360				365						
Thr	Lys	Ile	Leu	Pro	Ile	Leu	Lys	Asp	Phe	Phe	Leu	Arg	Glu	Asp	Leu		
	370					375					380						
Thr	Phe	Tyr	Gly	Tyr	Asn	Leu	Lys	Arg	Asp	Cys	His	Ala	Leu	Leu	Asn		
385					390				395						400		
Ala	Gly	Ile	Val	Ile	Arg	Glu	Ile	Ser	Tyr	Asp	Leu	Ala	Leu	Ala	Glu		
				405				410						415			
His	Leu	Thr	Asn	Gly	Gly	Gly	Lys	Ile	Ser	Phe	Gln	Ser	Leu	Leu	Val		
			420					425					430				
Asn	His	Gly	Phe	Thr	Glu	Thr	Ala	His	Arg	Phe	Ala	Lys	Glu	Trp	Gly		
	435						440					445					
Asn	Ser	Gly	Leu	Pro	Ile	Gly	Arg	Leu	Pro	Glu	Gln	Pro	Glu	Gln	Tyr		
	450					455					460						
Phe	Gly	Glu	Phe	Val	Ala	Tyr	Leu	Pro	Ile	Ile	Lys	Asp	Ala	Ile	Leu		
465					470					475					480		
Glu	Glu	Ile	Asn	Arg	Lys	Asn	Leu	Asn	His	Ile	Leu	Ser	Asp	Ile	Glu		
				485				490						495			

Met	Pro	Leu	Glu	Lys	Val	Leu	Phe	Ser	Met	Glu	Arg	Ala	Gly	Val	Pro
			500					505					510		
Leu	Asp	Val	Glu	Glu	Leu	Ala	Ile	Leu	Glu	Ala	Leu	Phe	Glu	Thr	Glu
		515					520					525			
Leu	Ala	Val	Leu	Thr	Glu	Glu	Ile	Tyr	Asp	Leu	Ser	Gly	Arg	Pro	Phe
		530				535					540				
Asn	Ile	Lys	Ser	Pro	Lys	Gln	Leu	Ser	Asp	Ile	Leu	Tyr	Asn	Glu	Leu
545					550					555					560
Gly	Leu	Arg	Pro	Ile	Asp	Lys	Ala	Lys	Ser	Thr	Arg	Ala	Glu	Val	Leu
			565						570					575	
Glu	Ala	Leu	Arg	Ser	Glu	His	Pro	Ile	Ile	Glu	Lys	Leu	Leu	Ala	Phe
			580					585					590		
Arg	Thr	Ile	Glu	Lys	Leu	Leu	Ser	Thr	Tyr	Val	Lys	Ala	Leu	Pro	Lys
		595					600					605			
Gln	Val	Asp	Ser	His	Thr	Gln	Arg	Ile	His	Pro	Ser	Phe	Asp	Gln	Thr
	610					615					620				
Gly	Ala	Val	Thr	Gly	Arg	Leu	Ala	Cys	Arg	Asp	Pro	Asn	Leu	Gln	Asn
625					630					635					640
Ile	Pro	Ile	Arg	Ser	Glu	Arg	Gly	Ile	Leu	Leu	Arg	Lys	Ala	Phe	Arg
			645					650						655	
Leu	Ser	Glu	Lys	Asn	Ser	Tyr	Phe	Leu	Ser	Ala	Asp	Tyr	Ser	Gln	Ile
			660					665					670		
Glu	Leu	Arg	Phe	Leu	Ala	His	Leu	Ser	Gln	Asp	Lys	Ser	Leu	Lys	Phe
		675					680					685			
Ala	Phe	Glu	Ser	Gly	Glu	Asp	Ile	His	Ala	Phe	Thr	Ala	Ser	Gln	Val
	690					695					700				
Phe	His	Val	Pro	Leu	Glu	Gln	Val	Ser	Lys	Glu	Gln	Arg	Met	Gln	Ala
705					710					715					720
Lys	Thr	Val	Asn	Phe	Gly	Ile	Val	Tyr	Gly	Gln	Gln	Ala	Phe	Gly	Leu
			725						730					735	
Ala	Lys	Val	Leu	Lys	Ile	Ser	Ile	Gly	Glu	Ala	Gln	Glu	Leu	Ile	Gln
		740						745					750		
Ala	Tyr	Phe	Ser	Arg	Tyr	Pro	Glu	Ile	Ala	His	Phe	Val	Glu	Glu	Thr
		755					760					765			
Ile	Gln	Gln	Ala	Ala	Lys	Asp	Leu	Arg	Val	Thr	Thr	Met	Leu	Gly	Arg
	770				775						780				
Glu	Arg	Ile	Ile	Asp	Ser	Trp	Asn	Glu	Phe	Pro	Gly	Ser	Arg	Ala	Ala
785				790						795					800
Ser	Gly	Arg	Phe	Ala	Val	Asn	Thr	Arg	Ile	Gln	Gly	Ser	Ala	Ala	Glu
			805					810						815	
Leu	Ile	Lys	Leu	Ala	Met	Leu	Asp	Ile	Ser	Gln	Ala	Ile	Lys	Gln	Gln
			820					825					830		
Gln	Met	Lys	Ser	Arg	Met	Leu	Leu	Gln	Ile	His	Asp	Glu	Leu	Leu	Phe
		835				840					845				
Glu	Val	Pro	Glu	Glu	Glu	Ile	Glu	Glu	Met	Gln	Arg	Leu	Val	Arg	Glu
	850				855					860					
Lys	Met	Glu	Ser	Ala	Met	Thr	Leu	Ser	Val	Pro	Ile	Val	Val	Asn	Ile
865					870					875					880
Leu	Ile	Gly	Lys	Asn	Trp	Ala	Glu	Cys							
				885											

<210> 615

<211> 335

<212> PRT

<213> Chlamydia pneumoniae

<400> 615

Val	Val	Met	Lys	Thr	Leu	Trp	His	Phe	Val	Ser	Lys	Ala	Phe	Leu	Ser
1			5						10					15	
Ile	Val	Gly	Leu	Cys	Cys	Gly	Val	Val	Leu	Ala	Phe	Val	Val	Ile	Phe
			20					25					30		

Ala	Leu	Ile	Ala	Ser	Ser	Leu	Gly	Asn	Gly	Asp	Ala	Thr	Phe	Val	Ser	35	40	45
Leu	Pro	Asp	Ala	Gln	Gly	Glu	Val	Lys	Asp	Leu	Gly	Lys	Thr	Ala	Pro	50	55	60
Ile	Ile	Ala	Val	Ile	Glu	Met	Lys	Asp	Val	Ile	Ala	Ser	Ser	Lys	Asn	65	70	75
Thr	Ala	Lys	Thr	Ile	Gln	Asn	Ile	Leu	Glu	Gly	Phe	Glu	Lys	Ala	Pro	85	90	95
Leu	Lys	Asp	Arg	Val	Lys	Gly	Ile	Val	Ile	Asp	Met	Asp	Cys	Pro	Gly	100	105	110
Gly	Glu	Val	Phe	Glu	Ile	Asp	Arg	Ile	Tyr	Ser	Met	Leu	Arg	Phe	Trp	115	120	125
Lys	Glu	Arg	Lys	Gly	Phe	Pro	Ile	Tyr	Ile	Tyr	Val	Asn	Gly	Leu	Cys	130	135	140
Ala	Ser	Gly	Gly	Tyr	Tyr	Val	Ser	Cys	Ala	Ala	Thr	Lys	Ile	Tyr	Ala	145	150	155
Thr	Ser	Ser	Ser	Leu	Ile	Gly	Ser	Ile	Gly	Val	Arg	Ser	Gly	Pro	Phe	165	170	175
Phe	Asn	Val	Lys	Glu	Gly	Leu	Asn	Arg	Tyr	Gly	Val	Glu	Ser	Asp	Leu	180	185	190
Leu	Thr	Ala	Gly	Lys	Asp	Lys	Ala	Pro	Met	Asn	Pro	Tyr	Thr	Pro	Trp	195	200	205
Thr	Ser	His	Asp	Arg	Glu	Glu	Arg	Gln	Ala	Thr	Leu	Asp	Phe	Leu	Tyr	210	215	220
Gly	Gln	Phe	Val	Asp	Ile	Val	Thr	Gln	Asn	Arg	Pro	Leu	Leu	Thr	Lys	225	230	235
Glu	Lys	Leu	Val	His	Thr	Leu	Gly	Ala	Arg	Ile	Phe	Ser	Pro	Glu	Lys	245	250	255
Ala	Lys	Gln	Glu	Gly	Tyr	Ile	Asp	Val	Val	Gly	Ala	Thr	Lys	Glu	Gln	260	265	270
Val	Leu	Gln	Asp	Ile	Val	Ala	Val	Cys	Lys	Ile	Glu	Asp	Asn	Tyr	Arg	275	280	285
Val	Ile	Gly	Ser	Gly	Gly	Asp	Gly	Trp	Trp	Lys	Arg	Val	Ala	Ser	Ala	290	295	300
Ala	Ala	Ser	Ser	Pro	Leu	Val	Thr	Gly	Met	Ile	Lys	His	Asp	Ile	Leu	305	310	315
Pro	Leu	Ser	His	Asp	Ala	Ala	Tyr	Ile	Pro	Pro	Tyr	Leu	Ala	Leu		325	330	335

<210> 616  
 <211> 551  
 <212> PRT  
 <213> Chlamydia pneumoniae

Val	Phe	Ile	Arg	His	Lys	Val	Gly	Lys	Glu	Phe	Met	Gln	Ser	Ser	Glu	<400> 616
1				5					10					15		
Val	Lys	Pro	Phe	Ser	Arg	Leu	Arg	Ala	Tyr	Leu	Cys	Pro	Ile	Tyr	Lys	
			20					25					30			
Ser	Glu	Phe	Ser	Lys	Phe	Val	Pro	Leu	Phe	Leu	Leu	Ala	Phe	Phe	Val	
			35				40					45				
Gly	Phe	Asn	Tyr	Cys	Leu	Leu	Lys	Asn	Met	Lys	Asp	Thr	Leu	Val	Ile	
			50			55				60						
Val	Gly	Ser	Asp	Ala	Gly	Ala	Glu	Val	Ile	Pro	Phe	Leu	Lys	Val	Trp	
					70					75					80	
Gly	Ile	Val	Pro	Gly	Ala	Val	Ile	Val	Thr	Met	Val	Tyr	Gly	Trp	Leu	
				85					90					95		
Gly	Ser	Arg	Tyr	Pro	Arg	Asp	Thr	Val	Phe	Tyr	Cys	Phe	Met	Ala	Ala	
				100				105					110			
Phe	Leu	Gly	Phe	Phe	Phe	Leu	Phe	Ala	Val	Ile	Ile	Tyr	Pro	Val	Gly	
			115				120					125				

Asp	Ser	Leu	His	Leu	Asn	Ser	Leu	Ala	Asp	Lys	Leu	Gln	Glu	Leu	Leu
130						135					140				
Pro	Gln	Gly	Leu	Arg	Gly	Phe	Ile	Val	Met	Val	Arg	Tyr	Trp	Ser	Tyr
145					150					155					160
Ser	Ile	Tyr	Tyr	Val	Met	Ser	Glu	Leu	Trp	Ser	Ser	Val	Val	Leu	Ser
				165					170						175
Met	Leu	Phe	Trp	Gly	Leu	Ala	Asn	Gln	Ile	Thr	Thr	Ile	Thr	Glu	Ala
			180					185						190	
Gly	Arg	Phe	Tyr	Ala	Leu	Ile	Asn	Thr	Gly	Leu	Asn	Leu	Ser	Ser	Ile
		195					200					205			
Cys	Ala	Gly	Glu	Ile	Ser	Tyr	Trp	Met	Gly	Lys	Gln	Thr	Phe	Val	Ala
	210					215					220				
Tyr	Ser	Phe	Ala	Cys	Asp	Ser	Trp	His	Ser	Val	Met	Leu	Asn	Leu	Thr
225					230					235					240
Met	Leu	Ile	Thr	Cys	Ser	Gly	Leu	Ile	Met	Ile	Trp	Leu	Tyr	Arg	Arg
				245					250					255	
Ile	His	His	Leu	Thr	Ile	Asp	Thr	Ser	Ile	Pro	Pro	Ser	Arg	Arg	Val
			260				265						270		
Leu	Ala	Glu	Glu	Gly	Ala	Ala	Thr	Ala	Asn	Leu	Lys	Glu	Lys	Lys	Lys
		275					280					285			
Pro	Lys	Ala	Lys	Ala	Arg	Asn	Leu	Phe	Leu	His	Leu	Ile	Gln	Ser	Arg
	290					295					300				
Tyr	Leu	Leu	Gly	Leu	Ala	Ile	Ile	Val	Leu	Ser	Tyr	Asn	Leu	Val	Ile
305				310						315					320
His	Leu	Phe	Glu	Val	Val	Trp	Lys	Asp	Gln	Val	Ser	Gln	Ile	Tyr	Ser
			325					330						335	
Ser	His	Val	Glu	Phe	Asn	Gly	Tyr	Met	Ser	Arg	Ile	Thr	Thr	Leu	Ile
			340				345					350			
Gly	Val	Val	Ser	Val	Leu	Ala	Ala	Val	Leu	Leu	Thr	Gly	Gln	Cys	Ile
		355					360					365			
Arg	Lys	Trp	Gly	Trp	Thr	Val	Gly	Ala	Leu	Val	Thr	Pro	Leu	Val	Met
	370					375					380				
Leu	Val	Ser	Gly	Leu	Leu	Phe	Phe	Gly	Thr	Ile	Phe	Ala	Ala	Lys	Arg
385				390						395					400
Asp	Ile	Ser	Ile	Phe	Gly	Gly	Val	Leu	Gly	Met	Thr	Pro	Leu	Ala	Leu
			405					410						415	
Ala	Ala	Trp	Thr	Gly	Gly	Met	Gln	Asn	Val	Leu	Ser	Arg	Gly	Thr	Lys
			420				425						430		
Phe	Thr	Phe	Phe	Asp	Gln	Thr	Lys	Glu	Met	Ala	Phe	Ile	Pro	Leu	Ser
	435						440				445				
Pro	Glu	Asp	Lys	Asn	His	Gly	Lys	Ala	Ala	Ile	Asp	Gly	Val	Val	Ser
	450					455					460				
Arg	Ile	Gly	Lys	Ser	Gly	Gly	Ser	Leu	Ile	Tyr	Gln	Gly	Leu	Leu	Val
465				470						475					480
Ile	Phe	Ser	Ser	Val	Ala	Ala	Ser	Leu	Asn	Val	Ile	Ala	Leu	Val	Leu
			485					490					495		
Leu	Ile	Ile	Met	Val	Val	Trp	Ile	Ala	Val	Val	Ala	Tyr	Ile	Gly	Lys
			500				505					510			
Glu	Tyr	Tyr	Ser	Arg	Ala	Ala	Asp	Ala	Val	Ala	Thr	Leu	Lys	Gln	Pro
	515						520					525			
Lys	Glu	Pro	Ser	Ser	Ser	Ile	Val	Arg	Glu	Ala	Gln	Glu	Ser	Val	Glu
	530					535					540				
Gln	Glu	Glu	Met	Ala	Val	Leu									
545					550										

<210> 617

<211> 172

<212> PRT

<213> Chlamydia pneumoniae

<400> 617

Leu	Ala	Lys	Ile	Met	Arg	Gln	Phe	Cys	Asn	Leu	Leu	Ser	Leu	Ser	Arg
1				5					10					15	
Leu	Trp	Leu	Ala	Leu	Tyr	Phe	Cys	Gln	Glu	Lys	Leu	His	Ile	Arg	Leu
			20					25					30		
Leu	Ala	Ile	Val	Gly	Ala	Met	Leu	Ser	Asp	Val	Leu	Asp	Gly	Tyr	Leu
			35				40					45			
Ala	Arg	Arg	Tyr	Lys	Ala	Thr	Ser	Arg	Leu	Gly	Ser	Ile	Leu	Asp	Pro
	50					55					60				
Ile	Thr	Asp	Lys	Val	Phe	Val	Phe	Val	Cys	Ile	Thr	Val	Leu	Tyr	Met
65					70				75					80	
Glu	Gly	Ser	Leu	Ser	Ile	Ala	His	Leu	Phe	Phe	Ile	Cys	Ala	Arg	Asp
				85					90					95	
Leu	Phe	Leu	Ile	Ile	Phe	Val	Cys	Tyr	Leu	Ser	Leu	Val	Lys	Gly	Trp
			100					105					110		
Lys	Gly	Tyr	Asp	Tyr	Gly	Ser	Leu	Phe	Trp	Gly	Lys	Ile	Phe	Thr	Val
		115				120						125			
Val	Gln	Phe	Ile	Ile	Leu	Leu	Gly	Val	Thr	Ala	Gly	Gly	Glu	Ile	Pro
	130					135					140				
Trp	Thr	Gly	Leu	Val	Pro	Leu	Val	Ala	Leu	Gly	Phe	Leu	Tyr	Phe	Leu
145					150					155					160
Glu	Arg	Ile	Met	Asp	Tyr	Lys	Lys	Gln	Phe	Leu	Arg				
				165					170						

<210> 618

<211> 478

<212> PRT

<213> Chlamydia pneumoniae

<400> 618

Thr	Leu	Thr	Asn	Tyr	Glu	Ser	Ser	Leu	Leu	Met	Asp	Lys	Ser	Thr	Gly
1				5					10					15	
Val	Pro	Leu	Pro	Ser	Pro	Pro	His	Ser	Lys	Glu	Ser	Glu	Met	Ile	Val
			20					25					30		
Leu	Gly	Cys	Met	Leu	Thr	Gly	Val	His	Tyr	Leu	Asn	Leu	Ala	Ala	Asn
		35				40						45			
Gln	Leu	Tyr	Glu	Glu	Asp	Phe	Tyr	Tyr	Leu	Glu	His	Lys	Ile	Ile	Phe
	50					55					60				
Arg	Val	Leu	Gln	Asp	Ala	Phe	Lys	Gln	Asp	Lys	Pro	Ile	Asp	Val	His
65					70					75				80	
Leu	Ala	Gly	Glu	Glu	Leu	Lys	Arg	His	Asn	Gln	Ile	Thr	Val	Ile	Gly
				85					90					95	
Gly	Pro	Ser	Tyr	Leu	Ile	Thr	Leu	Ala	Glu	Phe	Ala	Gly	Thr	Ala	Ala
			100					105					110		
Tyr	Leu	Glu	Glu	Tyr	Val	Asp	Ile	Ile	Arg	Ser	Lys	Ser	Ile	Leu	Arg
		115				120						125			
Lys	Met	Ile	Ser	Thr	Ala	Lys	Glu	Ile	Glu	Lys	Arg	Ala	Leu	Glu	Gln
	130					135					140				
Pro	Lys	Asn	Val	Ala	Glu	Ala	Leu	Asp	Glu	Ala	Gln	Asn	Ser	Phe	Phe
145					150					155				160	
Lys	Ile	Ser	Gln	Ser	Thr	Ser	Val	Ser	Gln	Tyr	Thr	Leu	Val	Ala	Asp
				165					170					175	
Lys	Leu	Arg	Gly	Leu	Thr	Thr	Thr	Thr	Asp	Lys	Pro	Tyr	Leu	Val	Gln
			180					185					190		
Leu	Gln	Glu	Arg	Gln	Glu	Leu	Phe	Leu	Gln	Asn	Ala	Gln	Gly	Asp	Asn
		195					200					205			
Lys	Ser	Phe	Phe	Thr	Gly	Ile	Pro	Thr	His	Phe	Ile	Asp	Leu	Asp	Gln
	210					215					220				
Leu	Ile	His	Gly	Phe	Ser	Pro	Ser	Asn	Leu	Met	Ile	Leu	Ala	Ala	Arg
225					230					235					240

Pro	Ala	Met	Gly	Lys	Thr	Ala	Leu	Ala	Leu	Asn	Ile	Ala	Glu	Asn	Leu
				245					250					255	
Cys	Phe	Gln	Asn	Arg	Leu	Pro	Ile	Gly	Ile	Phe	Ser	Leu	Glu	Met	Thr
			260					265					270		
Val	Asp	Gln	Leu	Ile	His	Arg	Met	Ile	Cys	Ser	Arg	Ser	Glu	Val	Asp
		275					280					285			
Ser	Lys	Lys	Ile	Ser	Ile	Gly	Asp	Leu	Ser	Gly	His	Asp	Phe	Gln	Arg
	290					295					300				
Ile	Val	Ser	Val	Ile	Asn	Glu	Met	Gln	Glu	His	Thr	Leu	Leu	Ile	Asp
305					310					315					320
Asp	Gln	Pro	Gly	Leu	Lys	Val	Ser	Asp	Leu	Arg	Ala	Arg	Ala	Arg	Arg
			325						330					335	
Met	Lys	Glu	Ser	Tyr	Asp	Ile	Gln	Phe	Leu	Ile	Ile	Asp	Tyr	Leu	Gln
			340					345					350		
Leu	Leu	Ser	Gly	Ser	Gly	Thr	Leu	Arg	Ala	Thr	Glu	Ser	Arg	Gln	Thr
		355					360						365		
Glu	Ile	Ser	Glu	Ile	Ser	Arg	Met	Leu	Lys	Thr	Leu	Ala	Arg	Glu	Leu
	370					375					380				
Asn	Ile	Pro	Ile	Leu	Cys	Leu	Ser	Gln	Leu	Ser	Arg	Lys	Val	Glu	Asp
385					390					395					400
Arg	Ala	Asn	His	Arg	Pro	Met	Met	Ser	Asp	Leu	Arg	Glu	Ser	Gly	Ser
			405						410					415	
Ile	Glu	Gln	Asp	Ser	Asp	Leu	Val	Met	Phe	Leu	Leu	Arg	Arg	Glu	Tyr
			420					425					430		
Tyr	Asp	Pro	Asn	Asp	Lys	Pro	Gly	Thr	Ala	Glu	Leu	Ile	Ile	Ala	Lys
		435					440					445			
Asn	Arg	His	Gly	Ser	Ile	Gly	Ser	Val	Pro	Leu	Val	Phe	Glu	Lys	Glu
	450					455					460				
Leu	Ala	Arg	Phe	Arg	Asn	Tyr	Ser	Ala	Phe	Glu	Cys	Ile	Ser		
465					470					475					

<210> 619

<211> 612

<212> PRT

<213> Chlamydia pneumoniae

<400> 619

Leu	Met	Trp	Thr	His	Pro	Ile	Ala	Tyr	Asp	Val	Ile	Val	Val	Gly	Ala
1				5					10					15	
Gly	His	Ala	Gly	Cys	Glu	Ala	Ala	Tyr	Cys	Ser	Ala	Lys	Met	Gly	Val
			20					25					30		
Ser	Val	Leu	Met	Leu	Thr	Ser	Asn	Leu	Asp	Thr	Ile	Ala	Lys	Leu	Ser
		35					40					45			
Cys	Asn	Pro	Ala	Val	Gly	Gly	Ile	Gly	Lys	Gly	His	Ile	Val	Arg	Glu
	50					55					60				
Ile	Asp	Ala	Leu	Gly	Gly	Ile	Met	Ala	Glu	Val	Thr	Asp	Gln	Ser	Gly
65					70					75					80
Ile	Gln	Phe	Arg	Ile	Leu	Asn	Gln	Thr	Lys	Gly	Pro	Ala	Val	Arg	Ala
			85						90					95	
Pro	Arg	Ala	Gln	Val	Asp	Lys	Gln	Leu	Tyr	His	Ile	His	Met	Lys	Arg
			100					105					110		
Leu	Leu	Glu	Asn	Thr	Pro	Gly	Leu	His	Ile	Met	Gln	Ala	Thr	Val	Glu
		115					120					125			
Ser	Leu	Leu	Asp	Lys	Glu	Gly	Val	Ile	Ser	Gly	Val	Thr	Thr	Lys	Glu
	130					135					140				
Gly	Trp	Met	Phe	Ser	Gly	Lys	Thr	Val	Val	Leu	Ser	Ser	Gly	Thr	Phe
145					150					155					160
Met	Arg	Gly	Leu	Ile	His	Ile	Gly	Asp	Arg	Asn	Phe	Ser	Gly	Gly	Arg
			165					170						175	
Leu	Gly	Asp	Pro	Ser	Ser	Gln	Gly	Leu	Ser	Glu	Asp	Leu	Lys	Lys	Arg
			180					185					190		

Gly	Phe	Pro	Ile	Ser	Arg	Leu	Lys	Thr	Gly	Thr	Pro	Pro	Arg	Leu	Leu
		195					200					205			
Ala	Ser	Ser	Ile	Asn	Phe	Ser	Cys	Met	Glu	Glu	Gln	Pro	Gly	Asp	Leu
	210					215					220				
Gly	Val	Gly	Phe	Val	His	Arg	Thr	Glu	Pro	Phe	Gln	Pro	Pro	Leu	Pro
225					230					235					240
Gln	Leu	Ser	Cys	Phe	Ile	Thr	His	Thr	Met	Glu	Lys	Thr	Lys	Ala	Ile
				245					250					255	
Ile	Ser	Ala	Asn	Leu	His	Arg	Ser	Ala	Leu	Tyr	Gly	Gly	Cys	Ile	Glu
			260					265					270		
Gly	Val	Gly	Pro	Arg	Tyr	Cys	Pro	Ser	Ile	Glu	Asp	Lys	Ile	Val	Lys
		275					280					285			
Phe	Ser	Asp	Lys	Glu	Arg	His	His	Val	Phe	Leu	Glu	Pro	Glu	Gly	Leu
	290					295					300				
His	Thr	Gln	Glu	Ile	Tyr	Ala	Asn	Gly	Leu	Ser	Thr	Ser	Met	Pro	Phe
305					310					315					320
Asp	Val	Gln	Tyr	Asp	Met	Ile	Arg	Ser	Val	Leu	Gly	Leu	Glu	Asn	Ala
				325					330					335	
Ile	Ile	Thr	Arg	Pro	Ala	Tyr	Ala	Ile	Glu	Tyr	Asp	Tyr	Ile	His	Gly
			340					345					350		
Asn	Val	Ile	His	Pro	Thr	Leu	Glu	Ser	Lys	Leu	Ile	Glu	Gly	Leu	Phe
		355					360					365			
Leu	Cys	Gly	Gln	Ile	Asn	Gly	Thr	Thr	Gly	Tyr	Glu	Glu	Ala	Ala	Ala
	370					375					380				
Gln	Gly	Leu	Ile	Ala	Gly	Ile	Asn	Ala	Val	Asn	Lys	Val	Phe	Asn	Arg
385					390					395					400
Pro	Pro	Phe	Ile	Pro	Ser	Arg	Gln	Glu	Ser	Tyr	Ile	Gly	Val	Met	Leu
				405					410					415	
Asp	Asp	Leu	Thr	Thr	Gln	Ile	Leu	Asp	Glu	Pro	Tyr	Arg	Met	Phe	Thr
			420					425					430		
Gly	Arg	Ala	Glu	His	Arg	Leu	Leu	Leu	Arg	Gln	Asp	Asn	Ala	Cys	Ala
		435					440					445			
Arg	Leu	Ser	His	Tyr	Gly	Tyr	Glu	Leu	Gly	Leu	Leu	Ser	Glu	Glu	Arg
	450					455					460				
Tyr	Glu	Leu	Val	Lys	Lys	Gln	Asn	Gln	Leu	Leu	Glu	Glu	Glu	Lys	Val
465					470					475					480
Arg	Leu	Gln	Lys	Thr	Phe	Arg	Gln	Tyr	Gly	Gln	Ser	Val	Val	Ser	Leu
				485					490					495	
Ala	Lys	Ala	Leu	Ser	Arg	Pro	Glu	Val	Ser	Tyr	Asp	Met	Leu	Arg	Glu
			500					505					510		
Ala	Phe	Pro	Asn	Asp	Ile	Arg	Asp	Leu	Gly	Ala	Val	Leu	Asn	Ala	Ser
		515					520					525			
Leu	Glu	Met	Glu	Ile	Lys	Tyr	Ser	Gly	Tyr	Ile	Asp	Arg	Gln	Lys	Ile
		530					535				540				
Leu	Ile	Gln	Ser	Leu	Glu	Lys	Ala	Glu	Ser	Leu	Leu	Ile	Pro	Glu	Asp
545					550					555					560
Leu	Asp	Tyr	Lys	Gln	Ile	Thr	Ala	Leu	Ser	Leu	Glu	Ala	Gln	Glu	Lys
				565					570					575	
Leu	Ala	Lys	Phe	Thr	Pro	Arg	Thr	Leu	Gly	Ser	Ala	Ser	Arg	Ile	Ser
			580					585					590		
Gly	Ile	Ala	Ser	Ala	Asp	Ile	Gln	Val	Leu	Met	Ile	Ala	Leu	Lys	Lys
		595					600					605			
His	Ala	His	His												
			610												

<210> 620

<211> 237

<212> PRT

<213> Chlamydia pneumoniae

<400> 620

Lys	Asn	Met	Pro	Thr	Thr	Asn	Cys	Ile	Phe	Leu	Asp	Leu	Arg	Gly	His
1				5					10					15	
Ser	Ile	Leu	His	Gln	Leu	Gln	Ile	Glu	Glu	Ala	Leu	Leu	Arg	Val	Ala
			20					25					30		
Asn	Gln	Asn	Phe	Cys	Ile	Ile	Asn	Ser	Gly	Ala	Lys	Asp	Ser	Ile	Val
	35						40					45			
Leu	Gly	Ile	Ser	Arg	Asn	Leu	Asn	Gln	Asp	Val	His	Ile	Ser	Arg	Ala
	50					55					60				
Gln	Ala	Asp	His	Ile	Pro	Ile	Ile	Arg	Arg	Tyr	Ser	Gly	Gly	Gly	Thr
65					70					75					80
Val	Phe	Ile	Asp	Ser	Asn	Thr	Leu	Met	Val	Ser	Trp	Ile	Met	Asn	Ser
			85						90					95	
Ser	Glu	Ala	Ser	Ala	Gln	Pro	Gln	Glu	Leu	Leu	Ala	Trp	Thr	Tyr	Gly
			100					105					110		
Ile	Tyr	Ser	Pro	Leu	Leu	Pro	Asn	Thr	Phe	Ser	Ile	Arg	Glu	Asn	Asp
	115						120						125		
Tyr	Val	Leu	Gly	His	Lys	Lys	Ile	Gly	Gly	Asn	Ala	Gln	Tyr	Ile	Gln
	130					135					140				
Arg	His	Arg	Trp	Val	His	His	Thr	Thr	Phe	Leu	Trp	Asp	Ile	Asp	Leu
145					150					155					160
Asp	Lys	Leu	Ser	Tyr	Tyr	Leu	Pro	Ile	Pro	Gln	Gln	Gln	Pro	Thr	Tyr
			165					170						175	
Arg	Asn	Gln	Arg	Ser	His	Glu	Glu	Phe	Leu	Thr	Thr	Leu	Arg	Pro	Trp
			180					185					190		
Phe	Pro	Ser	Arg	Asp	Asp	Phe	Leu	Glu	Arg	Ile	Lys	Ala	Ser	Gly	Ser
	195						200					205			
Leu	Leu	Phe	Thr	Trp	Glu	Glu	Phe	Leu	Asp	Asn	Glu	Leu	Glu	Glu	Ile
	210					215					220				
Leu	Ala	Gln	Pro	His	Arg	Lys	Ala	Thr	Thr	Val	Leu	Asn			
225					230					235					

<210> 621

<211> 150

<212> PRT

<213> Chlamydia pneumoniae

<400> 621

Arg	Arg	Tyr	Val	Tyr	Thr	Met	Glu	Gln	Thr	Leu	Ser	Ile	Ile	Lys	Pro
1				5					10					15	
Asp	Ser	Val	Ser	Lys	Ala	His	Ile	Gly	Glu	Ile	Leu	Ser	Ile	Phe	Glu
			20					25					30		
Gln	Ser	Gly	Leu	Arg	Ile	Ala	Ala	Met	Lys	Met	Met	His	Leu	Ser	Gln
	35						40					45			
Thr	Glu	Ala	Glu	Gly	Phe	Tyr	Phe	Val	His	Arg	Glu	Arg	Pro	Phe	Phe
	50					55				60					
Gln	Glu	Leu	Val	Asp	Phe	Met	Val	Ser	Gly	Pro	Val	Val	Val	Leu	Val
65					70					75					80
Leu	Glu	Gly	Ala	Asn	Ala	Val	Ser	Arg	Asn	Arg	Glu	Leu	Met	Gly	Ala
			85						90					95	
Thr	Asn	Pro	Ala	Glu	Ala	Ala	Ser	Gly	Thr	Ile	Arg	Ala	Lys	Phe	Gly
		100						105					110		
Glu	Ser	Ile	Gly	Val	Asn	Ala	Val	His	Gly	Ser	Asp	Thr	Leu	Glu	Asn
	115					120					125				
Ala	Ala	Val	Glu	Ile	Ala	Tyr	Phe	Phe	Ser	Lys	Ile	Glu	Val	Val	Asn
	130					135					140				
Ala	Ser	Lys	Pro	Leu	Val										
145					150										



<210> 622  
 <211> 209  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 622  
 Asp Lys Met Tyr Asp Tyr Ile Arg Gly Thr Leu Thr Tyr Val His Thr  
 1 5 10 15  
 Gly Ala Ile Val Ile Glu Cys Gln Gly Ile Gly Tyr His Ile Ala Ile  
 20 25 30  
 Thr Glu Arg Trp Ala Ile Glu Cys Ile Arg Ala Leu His Gln Asp Phe  
 35 40 45  
 Leu Val Phe Thr His Val Ile Phe Arg Glu Thr Glu His Leu Leu Tyr  
 50 55 60  
 Gly Phe His Ser Arg Glu Glu Arg Glu Cys Phe Arg Ile Leu Ile Ser  
 65 70 75 80  
 Phe Ser Gly Ile Gly Pro Lys Leu Ala Leu Ala Ile Leu Asn Ala Leu  
 85 90 95  
 Pro Leu Lys Val Leu Cys Ser Val Val Arg Ser Glu Asp Ile Arg Ala  
 100 105 110  
 Leu Ala Ser Val Ser Gly Ile Gly Lys Lys Thr Ala Glu Lys Leu Met  
 115 120 125  
 Val Glu Leu Lys Gln Lys Leu Pro Asp Leu Leu Pro Leu Asp Ser Arg  
 130 135 140  
 Val Glu Thr Ser Gln Thr His Thr Thr Ser Ser Cys Leu Glu Glu Gly  
 145 150 155 160  
 Ile Gln Ala Leu Ala Ala Leu Gly Tyr Ser Lys Ile Ala Ala Glu Arg  
 165 170 175  
 Met Ile Ala Glu Ala Ile Lys Asp Leu Pro Glu Gly Ser Ser Leu Thr  
 180 185 190  
 Asp Ile Leu Pro Ile Ala Leu Lys Lys Asn Phe Ser Gly Val Asn Lys  
 195 200 205  
 Asp

<210> 623  
 <211> 188  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 623  
 Leu Ser Arg Leu Gly Ser Ser Phe Lys Asp Asn Lys Phe Lys Val Phe  
 1 5 10 15  
 Gln Glu Ser Ile Val Ser Glu Leu Ile Ile Gly Val Asp Pro Gly Thr  
 20 25 30  
 Ile Val Ala Gly Tyr Ala Ile Ile Ala Val Glu Gln Arg Tyr Gln Leu  
 35 40 45  
 Arg Pro Tyr Ser Tyr Gly Ala Ile Arg Leu Ser Ser Asp Met Pro Leu  
 50 55 60  
 Pro Met Arg Tyr Lys Thr Leu Phe Glu Gln Leu Ser Gly Val Leu Asp  
 65 70 75 80  
 Asp Thr Gln Pro Asn Ala Met Val Leu Glu Thr Gln Phe Val Asn Lys  
 85 90 95  
 Asn Pro Gln Ser Thr Met Lys Leu Ala Met Ala Arg Gly Ile Val Leu  
 100 105 110  
 Leu Ala Ala Ala Gln Arg Asp Ile Leu Ile Phe Glu Tyr Ala Pro Asn  
 115 120 125  
 Val Ala Lys Lys Ala Val Val Gly Lys Gly His Ala Ser Lys Arg Gln  
 130 135 140  
 Val Gln Val Met Val Ser Lys Ile Leu Asn Val Pro Glu Val Leu His  
 145 150 155 160

Pro Ser Asn Glu Asp Ile Ala Asp Ala Phe Ala Leu Ala Ile Cys His  
 165 170 175  
 Thr His Val Ala Arg Ser Pro Leu Cys Gly Val Arg  
 180 185

<210> 624  
 <211> 323  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 624  
 Arg Tyr Ser Val Arg Leu Leu Ser Ile Leu Lys Leu His Leu Phe Ser  
 1 5 10 15  
 Leu Arg Ser Ser Ser Leu Ser Pro His Tyr Tyr His Ser Cys Ser  
 20 25 30  
 Arg Ser Met Leu His Leu Leu Cys Arg Trp Lys Asp Ala Asp Ile Met  
 35 40 45  
 Glu Trp Gln Gln Ile Cys Asn Ile Leu Ser Gly Val Cys Ser Arg Met  
 50 55 60  
 Ser Gly Lys Leu Val Ser Leu Gln Lys Glu Thr Gln Asp Ser Cys His  
 65 70 75 80  
 Gln Glu His Glu Arg Ile His Leu Gln Tyr Arg Glu Gln Leu Ser Ala  
 85 90 95  
 Leu Glu Glu Glu Tyr Arg Arg Arg Glu Ala Lys Asn Gln Asp Leu  
 100 105 110  
 Glu Lys Leu Gln Gln Glu Asn Thr Trp Leu Gln Asn Arg Leu Ala Glu  
 115 120 125  
 Lys Leu Gln Gln Ile Arg His Gln Ser Asp Ile Ile Asp Glu Ile Lys  
 130 135 140  
 Lys Glu Leu Leu Gln Ser Val Gln Arg Thr Glu Ile Ser Glu Gly Arg  
 145 150 155 160  
 Arg Leu Cys Tyr Glu His Lys Ile Lys Gln Leu Glu Glu Gln Leu Gln  
 165 170 175  
 Arg Tyr Val Ser Gln His Gly Ala Pro Ser Ile Glu Ile Glu Glu Asp  
 180 185 190  
 Lys Ser Ser Ala Ala Tyr Ala Glu Ile Asn Arg Leu Lys Lys Ser Leu  
 195 200 205  
 Ile Asp Leu Gln Gln Glu Lys Asp Ile Tyr Ile Lys Thr Tyr His Ser  
 210 215 220  
 Glu Ile Ala Lys Leu Arg Glu Lys Leu Gln Arg Gln Glu Gly Ala Gln  
 225 230 235 240  
 Thr Ser Ser Glu Val Cys Ser Ile Glu Lys Leu Thr Glu Val Gln Thr  
 245 250 255  
 Asp Leu Ala Glu Lys Lys Lys Ala Ile Ala Leu Leu Gln Asp Ile Val  
 260 265 270  
 Glu Asp Gln Tyr Cys Gln Leu Arg Asp Leu His Lys Glu Lys Gly Met  
 275 280 285  
 Ala Met Pro Ser Asn Thr Lys Leu Asp His Leu Lys Gly Leu Leu Gly  
 290 295 300  
 Lys Glu Pro Glu Ser Glu Val Asp Val Val Phe Ser Glu Ser Lys Ser  
 305 310 315 320  
 Leu Gly Ser

<210> 625  
 <211> 283  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 625

Ile	Lys	Gly	Tyr	Asn	Tyr	Val	Tyr	Phe	Thr	Arg	Asp	Pro	Val	Ile	Glu
1				5					10					15	
Thr	Val	Ile	Thr	Ser	Arg	Glu	Gly	Tyr	Lys	Leu	Ser	Val	Arg	Asn	Thr
			20					25					30		
Lys	His	Phe	Ser	Gln	Asp	Pro	Phe	Met	Val	Glu	Ala	Ile	Glu	Val	Ile
		35					40					45			
Ser	Leu	Gly	Asn	Ile	Cys	Phe	Arg	Asn	Cys	Asp	His	Ser	Lys	Pro	
	50					55				60					
Phe	Leu	Val	Pro	Ala	Gly	Asp	Tyr	Glu	Val	Met	Glu	Val	Arg	Asp	Thr
65					70					75					80
Lys	Ile	Asn	Leu	Lys	Ala	Val	Gly	Leu	Asp	Arg	Gly	Val	Lys	Ile	Ala
				85					90					95	
Gly	Gly	Arg	Glu	Ala	Leu	Ile	Lys	Leu	Thr	Lys	Ser	Thr	Pro	Leu	Pro
			100					105					110		
Val	Ile	Asp	Glu	Lys	Pro	Leu	Ala	Asp	Ser	Pro	Glu	Glu	Gly	Thr	Glu
		115					120					125			
Pro	Thr	Ser	Pro	Ser	Lys	Lys	Glu	Lys	Lys	Glu	Ala	Arg	Lys	Asp	Ser
		130				135					140				
Phe	Lys	Gly	Glu	Lys	Trp	Lys	Glu	Lys	Lys	Lys	Leu	Ser	Arg	Arg	Arg
145					150					155					160
Asn	His	Lys	Glu	Ile	Ala	Glu	Val	Thr	Gly	Ala	Ser	Gln	Glu	Ile	Leu
				165					170					175	
Asp	Thr	Val	Lys	Glu	Glu	Leu	Trp	Glu	Glu	Ser	Gln	Glu	Asn	Glu	Ile
		180						185					190		
Val	Glu	Gln	Lys	Lys	Phe	Ser	Leu	Leu	Pro	Pro	Pro	Ala	Lys	Leu	Ile
		195					200					205			
Ser	Glu	Val	Ile	Ser	Gln	Thr	Val	Val	Asp	Pro	Val	Val	Thr	Ser	Ala
		210				215					220				
Asp	Leu	Asn	Glu	Ser	Leu	Gln	Ala	Leu	Val	Arg	Glu	Ser	Ser	Asp	Leu
225					230					235					240
Ile	Asn	Ala	Leu	Leu	Ser	Ala	Asp	Asp	Ala	Ile	His	Phe	Pro	Glu	Thr
				245					250					255	
Glu	Glu	Glu	Pro	Thr	Ser	Ala	Ser	Phe	Glu	Glu	Ser	Ser	Ala	Met	Phe
			260					265					270		
Phe	Pro	Glu	Thr	Ser	Ser	Ala	Thr	Glu	Glu	Glu					
		275					280								

<210> 626

<211> 336

<212> PRT

<213> Chlamydia pneumoniae

<400> 626

Ala	Met	Lys	Val	Val	Ile	Asn	Gly	Phe	Gly	Arg	Ile	Gly	Arg	Leu	Val
1					5				10					15	
Leu	Arg	Gln	Ile	Leu	Lys	Arg	Asn	Ser	Ser	Val	Glu	Val	Leu	Ala	Ile
			20					25					30		
Asn	Asp	Leu	Val	Pro	Gly	Asp	Ala	Leu	Thr	Tyr	Leu	Phe	Lys	Phe	Asp
		35					40					45			
Ser	Thr	His	Gly	Arg	Phe	Pro	Glu	Asp	Val	Arg	Cys	Glu	Ala	Asp	His
	50					55					60				
Leu	Ile	Val	Gly	Lys	Arg	Lys	Ile	Gln	Phe	Leu	Ser	Glu	Arg	Asn	Val
65					70					75					80
Gln	Asn	Leu	Pro	Trp	Lys	Asp	Leu	Gly	Val	Asp	Leu	Val	Ile	Glu	Cys
				85				90						95	
Thr	Gly	Leu	Phe	Thr	Lys	Lys	Glu	Asp	Ala	Glu	Lys	His	Ile	Gln	Ala
			100				105						110		
Gly	Ala	Lys	Arg	Val	Leu	Ile	Ser	Ala	Pro	Gly	Lys	Gly	Asp	Ile	Pro
		115					120					125			

Thr	Phe	Val	Met	Gly	Val	Asn	His	Lys	Thr	Phe	Asn	Pro	Glu	Lys	Asp
130						135					140				
Phe	Val	Ile	Ser	Asn	Ala	Ser	Cys	Thr	Thr	Asn	Cys	Leu	Ala	Pro	Ile
145					150					155					160
Ala	Lys	Val	Leu	Leu	Asp	Asn	Phe	Gly	Ile	Thr	Glu	Gly	Leu	Met	Thr
				165					170						175
Thr	Val	His	Ala	Ala	Thr	Ala	Thr	Gln	Leu	Val	Val	Asp	Gly	Pro	Ser
			180					185					190		
Lys	Lys	Asp	Trp	Arg	Gly	Gly	Arg	Gly	Cys	Leu	Gln	Asn	Ile	Ile	Pro
		195					200					205			
Ala	Ser	Thr	Gly	Ala	Ala	Lys	Ala	Val	Thr	Leu	Cys	Leu	Pro	Glu	Leu
	210					215					220				
Lys	Gly	Lys	Leu	Thr	Gly	Met	Ala	Phe	Arg	Val	Pro	Ile	Glu	Asp	Val
225					230					235					240
Ser	Val	Val	Asp	Leu	Thr	Val	Arg	Leu	Asp	Lys	Ser	Thr	Thr	Tyr	Asp
			245						250						255
Asp	Ile	Cys	Lys	Ala	Met	Lys	Gln	Ala	Ser	Glu	Thr	Asp	Leu	Lys	Gly
			260					265					270		
Ile	Leu	Asp	Tyr	Thr	Asp	Glu	Gln	Val	Val	Ser	Ser	Asp	Phe	Ile	Gly
		275					280					285			
Ser	Glu	Tyr	Ser	Ser	Ile	Phe	Asp	Ala	Leu	Ala	Gly	Ile	Ala	Leu	Asn
	290					295					300				
Asp	Arg	Phe	Phe	Lys	Leu	Val	Ala	Trp	Tyr	Asp	Asn	Glu	Thr	Gly	Tyr
305					310					315					320
Ala	Thr	Arg	Ile	Val	Asp	Leu	Leu	Glu	Tyr	Val	Glu	Lys	Asn	Ser	Lys
			325						330						335

<210> 627

<211> 143

<212> PRT

<213> Chlamydia pneumoniae

<400> 627

Val	Met	Gln	His	Ala	Arg	Lys	Lys	Phe	Arg	Val	Gly	Arg	Thr	Ser	Ser
1				5					10					15	
His	Asn	Arg	Cys	Met	Leu	Ala	Asn	Met	Leu	Lys	Ser	Leu	Ile	His	Tyr
			20					25					30		
Glu	Arg	Ile	Glu	Thr	Thr	Leu	Pro	Lys	Ala	Lys	Glu	Leu	Arg	Arg	His
		35					40					45			
Ala	Asp	Lys	Met	Ile	Thr	Leu	Ala	Lys	Lys	Asn	Ser	Leu	Ala	Ala	Arg
	50					55					60				
Arg	Ile	Ala	Ile	Gly	Arg	Leu	Met	Val	Arg	Tyr	Asn	Lys	Leu	Thr	Ser
65					70					75					80
Lys	Glu	Ala	Arg	Gln	Ala	Lys	Gly	Gly	Asp	Thr	Ser	Val	Tyr	Asn	Val
			85					90						95	
Asp	Arg	Leu	Val	Val	Asn	Lys	Leu	Phe	Asp	Glu	Leu	Gly	Asn	Arg	Phe
			100					105					110		
Val	Glu	Arg	Lys	Gly	Gly	Tyr	Thr	Arg	Ile	Leu	Lys	Leu	Gln	Asn	Arg
		115					120						125		
Ile	Gly	Asp	Asn	Ala	Gln	Lys	Cys	Ile	Ile	Glu	Phe	Leu	Ala	Ser	
	130					135						140			

<210> 628

<211> 392

<212> PRT

<213> Chlamydia pneumoniae

<400> 628

Trp	Leu	Pro	Ala	Lys	Lys	Lys	Ala	Gln	Ser	Val	Val	Leu	Gly	Lys	Glu
1				5					10					15	

Lys Gly Met Ser Asp Asn Ala His Asn Leu Leu Tyr Asp Lys Phe Glu  
 20 25 30  
 Leu Pro Glu Ala Val Lys Met Leu Pro Val Glu Gly Leu Pro Ile Asp  
 35 40 45  
 Lys His Ala Arg Phe Ile Ala Glu Pro Leu Glu Arg Gly Met Gly His  
 50 55 60  
 Thr Leu Gly Asn Ala Leu Arg Arg Ala Leu Leu Ile Gly Leu Glu Ala  
 65 70 75 80  
 Pro Ala Ile Ile Ser Phe Ala Met Thr Gly Val Leu His Glu Tyr Met  
 85 90 95  
 Ala Ile Glu Gly Val Ile Glu Asp Val Thr Asn Ile Ile Leu Asn Leu  
 100 105 110  
 Lys Gly Ala Leu Leu Lys Lys Tyr Pro Met Gln Asp Ser Ser Leu Gly  
 115 120 125  
 Arg Thr Thr Gln Val Leu Lys Ala Ser Ile Ser Ile Asp Ala Ser Asp  
 130 135 140  
 Leu Ala Ala Ala Asn Gly Gln Lys Glu Val Thr Leu Gln Asp Leu Leu  
 145 150 155 160  
 Gln Glu Gly Asp Phe Glu Ala Val Asn Pro Asp Gln Val Ile Phe Thr  
 165 170 175  
 Val Thr Gln Pro Ile Gln Leu Glu Val Val Leu Arg Ile Ala Phe Gly  
 180 185 190  
 Arg Gly Tyr Thr Pro Ser Glu Arg Ile Val Leu Glu Asp Lys Gly Val  
 195 200 205  
 Tyr Glu Ile Val Leu Asp Ala Ala Phe Ser Pro Val Thr Leu Val Asn  
 210 215 220  
 Tyr Phe Val Glu Asp Thr Arg Val Gly Gln Asp Thr Asp Phe Asp Arg  
 225 230 235 240  
 Leu Val Leu Ile Val Glu Thr Asp Gly Arg Val Thr Pro Lys Glu Ala  
 245 250 255  
 Leu Ala Phe Ser Thr Gln Ile Leu Thr Lys His Phe Ser Ile Phe Glu  
 260 265 270  
 Asn Met Asp Glu Lys Lys Ile Val Phe Glu Glu Ala Ile Ser Ile Glu  
 275 280 285  
 Lys Glu Asn Lys Asp Asp Ile Leu His Lys Leu Ile Leu Gly Ile Asn  
 290 295 300  
 Glu Ile Glu Leu Ser Val Arg Ser Thr Asn Cys Leu Ser Asn Ala Asn  
 305 310 315 320  
 Ile Glu Thr Ile Gly Glu Leu Val Ile Met Pro Glu Pro Arg Leu Leu  
 325 330 335  
 Gln Phe Arg Asn Phe Gly Lys Lys Ser Leu Cys Glu Ile Lys Asn Lys  
 340 345 350  
 Leu Lys Glu Met Lys Leu Glu Leu Gly Met Asp Leu Thr Gln Phe Gly  
 355 360 365  
 Val Gly Leu Asp Asn Val Lys Glu Lys Met Lys Trp Tyr Ala Glu Lys  
 370 375 380  
 Ile Arg Ala Lys Asn Thr Lys Gly  
 385 390

<210> 629

<211> 140

<212> PRT

<213> Chlamydia pneumoniae

<400> 629

Phe Leu Ile Arg Ser Arg Val Leu Val Lys Asn Gln Ala Gln Ala Lys  
 1 5 10 15  
 Lys Ser Val Lys Arg Lys Gln Leu Lys Asn Ile Pro Ser Gly Val Val  
 20 25 30  
 His Val Lys Ala Thr Phe Asn Asn Thr Ile Val Ser Ile Thr Asp Pro  
 35 40 45

Ala	Gly	Asn	Val	Ile	Ser	Trp	Ala	Ser	Ala	Gly	Lys	Val	Gly	Tyr	Ser
50						55				60					
Gly	Ser	Arg	Lys	Ser	Ser	Ala	Phe	Ala	Ala	Thr	Val	Ala	Ala	Gln	Asp
65				70						75				80	
Ala	Ala	Lys	Thr	Ala	Met	Asn	Ser	Gly	Leu	Lys	Glu	Val	Glu	Val	Cys
			85					90					95		
Leu	Lys	Gly	Thr	Gly	Ala	Gly	Arg	Glu	Ser	Ala	Val	Arg	Ala	Leu	Ile
		100						105					110		
Ser	Ala	Gly	Leu	Val	Val	Ser	Val	Ile	Arg	Asp	Glu	Thr	Pro	Val	Pro
	115						120					125			
His	Asn	Gly	Cys	Arg	Pro	Arg	Lys	Arg	Arg	Arg	Val				
130						135					140				

<210> 630

<211> 133

<212> PRT

<213> Chlamydia pneumoniae

<400> 630

Asp	Ala	Tyr	Thr	Ile	Leu	Arg	Glu	Ala	Gln	Arg	Met	Pro	Arg	Ile	Ile
1				5				10						15	
Gly	Ile	Asp	Ile	Pro	Ala	Lys	Lys	Lys	Leu	Lys	Ile	Ser	Leu	Thr	Tyr
			20					25					30		
Ile	Tyr	Gly	Ile	Gly	Ser	Ala	Arg	Ser	Asp	Glu	Ile	Ile	Lys	Lys	Leu
		35					40					45			
Lys	Leu	Asp	Pro	Glu	Ala	Arg	Ala	Ser	Glu	Leu	Thr	Glu	Glu	Glu	Val
	50					55				60					
Gly	Arg	Leu	Asn	Ser	Leu	Leu	Gln	Ser	Glu	Tyr	Thr	Val	Glu	Gly	Asp
65				70					75					80	
Leu	Arg	Arg	Arg	Val	Gln	Ser	Asp	Ile	Lys	Arg	Leu	Ile	Ala	Ile	His
			85					90					95		
Ser	Tyr	Arg	Gly	Gln	Arg	His	Arg	Leu	Ser	Leu	Pro	Val	Arg	Gly	Gln
		100					105						110		
Arg	Thr	Lys	Thr	Asn	Ser	Arg	Thr	Arg	Lys	Gly	Lys	Arg	Lys	Thr	Val
	115						120					125			
Ala	Gly	Lys	Lys	Lys											
130															

<210> 631

<211> 465

<212> PRT

<213> Chlamydia pneumoniae

<400> 631

Lys	Ile	Arg	Leu	Phe	Arg	Pro	Tyr	Met	Thr	Thr	Leu	Arg	Gln	Phe	Phe
1				5					10					15	
Leu	Ile	Thr	Glu	Leu	Arg	Gln	Lys	Leu	Phe	Tyr	Thr	Phe	Ala	Leu	Leu
			20					25					30		
Thr	Ala	Cys	Arg	Val	Gly	Val	Phe	Ile	Pro	Val	Pro	Gly	Ile	Asn	Gly
		35					40					45			
Glu	Leu	Ala	Val	Ala	Tyr	Phe	Lys	Gln	Leu	Leu	Gly	Ser	Gly	Gln	Asn
	50					55					60				
Leu	Phe	Gln	Leu	Ala	Asp	Ile	Phe	Ser	Gly	Gly	Ala	Phe	Ala	Gln	Met
65				70					75					80	
Thr	Val	Ile	Ala	Leu	Gly	Val	Val	Pro	Tyr	Ile	Ser	Ala	Ser	Ile	Ile
			85					90					95		
Val	Gln	Leu	Phe	Leu	Val	Phe	Met	Pro	Ala	Leu	Gln	Arg	Glu	Met	Arg
		100					105						110		
Glu	Ser	Ser	Asp	Gln	Gly	Lys	Arg	Arg	Ile	Gly	Arg	Leu	Thr	Arg	Leu
	115						120					125			

Phe	Thr	Val	Ala	Leu	Ala	Val	Ile	Gln	Ser	Leu	Leu	Phe	Ala	Lys	Phe
130						135					140				
Ala	Leu	Arg	Met	Asn	Leu	Thr	Ile	Pro	Gly	Ile	Val	Leu	Pro	Thr	Leu
145					150					155					160
Leu	Ser	Ser	Lys	Leu	Phe	Gly	Val	Pro	Trp	Ile	Phe	Tyr	Ile	Thr	Thr
			165						170					175	
Val	Val	Val	Met	Thr	Thr	Gly	Thr	Leu	Leu	Leu	Met	Trp	Ile	Gly	Glu
			180					185					190		
Gln	Ile	Ser	Asp	Lys	Gly	Ile	Gly	Asn	Gly	Ile	Ser	Leu	Ile	Ile	Ala
		195					200					205			
Leu	Gly	Ile	Leu	Ser	Ser	Phe	Pro	Ser	Val	Leu	Gly	Ser	Ile	Val	Asn
	210					215					220				
Lys	Leu	Asn	Leu	Gly	Ser	Gln	Asp	Ser	Ser	Asp	Leu	Gly	Leu	Ile	Ser
225					230					235					240
Ile	Leu	Ile	Leu	Ala	Leu	Val	Phe	Val	Phe	Val	Leu	Ile	Thr	Thr	Ile
			245						250					255	
Leu	Ile	Ile	Glu	Gly	Val	Arg	Lys	Ile	Pro	Val	Gln	Tyr	Ala	Arg	Arg
			260					265					270		
Val	Ile	Gly	Arg	Arg	Glu	Val	Pro	Gly	Gly	Gly	Ser	Tyr	Leu	Pro	Leu
		275					280					285			
Lys	Val	Asn	Tyr	Ala	Gly	Val	Ile	Pro	Val	Ile	Phe	Ala	Ser	Ser	Leu
	290					295					300				
Leu	Met	Phe	Pro	Ala	Thr	Ile	Gly	Gln	Phe	Ile	Ala	Ser	Glu	Ser	Ser
305					310					315					320
Trp	Met	Lys	Arg	Ile	Ala	Ala	Leu	Leu	Ala	Pro	Gly	Ser	Leu	Val	Tyr
			325						330					335	
Ser	Ile	Cys	Tyr	Val	Leu	Leu	Ile	Ile	Phe	Phe	Thr	Tyr	Phe	Trp	Thr
		340						345					350		
Ala	Thr	Gln	Phe	His	Pro	Glu	Gln	Ile	Ala	Ser	Glu	Met	Lys	Lys	Asn
		355					360					365			
Asn	Ala	Phe	Ile	Pro	Gly	Ile	Arg	Gln	Gly	Lys	Pro	Thr	Gln	His	Tyr
	370					375					380				
Leu	Glu	Tyr	Thr	Met	Asn	Arg	Val	Thr	Leu	Leu	Gly	Ala	Leu	Phe	Leu
385					390					395					400
Ala	Ala	Ile	Ala	Ile	Leu	Pro	Ser	Leu	Leu	Gly	Cys	Leu	Leu	Arg	Val
			405						410					415	
Asp	Ser	Asn	Val	Ser	Tyr	Phe	Leu	Gly	Gly	Thr	Ala	Met	Leu	Ile	Val
			420					425					430		
Val	Gly	Val	Val	Leu	Asp	Thr	Met	Lys	Gln	Val	Asp	Ala	Phe	Leu	Leu
		435					440					445			
Met	Arg	Arg	Tyr	Asp	Ser	Val	Leu	Lys	Thr	Asp	Arg	Thr	Lys	Gly	Arg
	450					455					460				
His															
465															

<210> 632  
 <211> 144  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 632															
Met	Ile	Lys	Leu	Glu	Ser	Leu	Phe	Asp	Ile	Ser	Glu	Arg	Lys	Arg	Arg
1				5					10				15		
Lys	Lys	Leu	Leu	Gly	Arg	Gly	Pro	Ser	Ser	Gly	His	Gly	Lys	Thr	Ser
		20					25						30		
Gly	Arg	Gly	His	Lys	Gly	Asp	Gly	Ser	Arg	Ser	Gly	Tyr	Lys	Arg	Arg
		35					40					45			
Phe	Gly	Tyr	Glu	Gly	Gly	Gly	Val	Pro	Leu	Tyr	Arg	Arg	Val	Pro	Thr
	50					55					60				
Arg	Gly	Phe	Ser	His	Lys	Arg	Phe	Asp	Lys	Cys	Val	Glu	Glu	Ile	Thr
65					70					75					80

Thr Gly Arg Leu Ala Glu Leu Phe Gln Glu Gly Glu Ala Ile Thr Leu  
                     85                    90                    95  
 Asp Ala Leu Lys Ala Lys Lys Ala Ile Ala Arg Gln Ala Val Arg Val  
                     100                    105                    110  
 Lys Val Ile Leu Lys Gly Asp Leu Glu Lys Thr Phe Val Trp Gln Asp  
                     115                    120                    125  
 Thr Ala Val Val Leu Ser Gln Gly Val Gln Asn Leu Leu Gly Ile Thr  
                     130                    135                    140

<210> 633  
 <211> 167  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 633  
 Glu Glu Met Ser Leu Ser Lys Asn Ser His Lys Glu Asp Gln Leu Glu  
 1                    5                    10                    15  
 Glu Lys Val Leu Val Val Asn Arg Cys Ser Lys Val Val Lys Gly Gly  
                     20                    25                    30  
 Arg Lys Phe Ser Phe Ser Ala Leu Ile Leu Val Gly Asp Gly Lys Gly  
                     35                    40                    45  
 Arg Leu Gly Tyr Gly Phe Ala Lys Ala Asn Glu Leu Thr Asp Ala Ile  
                     50                    55                    60  
 Arg Lys Gly Gly Glu Ala Ala Lys Lys Asn Leu Met Lys Ile Glu Ala  
 65                    70                    75                    80  
 Leu Glu Asp Gly Ser Ile Pro His Glu Val Leu Val His His Asp Gly  
                     85                    90                    95  
 Ala Gln Leu Leu Leu Lys Pro Ala Lys Pro Gly Thr Gly Ile Val Ala  
                     100                    105                    110  
 Gly Ser Arg Ile Arg Leu Ile Leu Glu Met Ala Gly Ile Lys Asp Ile  
                     115                    120                    125  
 Val Ala Lys Ser Phe Gly Ser Asn Asn Pro Met Asn Gln Val Lys Ala  
                     130                    135                    140  
 Ala Phe Lys Ala Leu Thr Gly Leu Ser Pro Arg Lys Asp Leu Leu Arg  
 145                    150                    155                    160  
 Arg Gly Ala Ala Ile Asn Asp  
                     165

<210> 634  
 <211> 176  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 634  
 Lys Gly Leu Ile Ser Ser Trp Leu Val Asn Leu Leu Gln Val Phe Ala  
 1                    5                    10                    15  
 Pro Asn Val Leu Leu Asn Leu Ile Lys Val Arg Glu Phe Val Met Lys  
                     20                    25                    30  
 Met Asn Met Ser Val Val Lys Leu Val Lys Leu Arg Lys Gln Ala Lys  
                     35                    40                    45  
 Asn Arg Ser Arg Val Met Glu Ser Ser Leu Cys Lys Lys Ser Leu Met  
                     50                    55                    60  
 Lys Arg Arg Arg Ala Leu Arg Val Arg Lys Val Leu Lys Gly Ser Pro  
 65                    70                    75                    80  
 Thr Lys Pro Arg Leu Ser Val Val Lys Thr Asn Lys His Ile Tyr Val  
                     85                    90                    95  
 Gln Leu Ile Asp Asp Ser Ile Gly Lys Thr Leu Ala Ser Val Ser Thr  
                     100                    105                    110  
 Leu Ser Lys Leu Asn Lys Ser Gln Gly Leu Thr Lys Lys Asn Gln Glu  
                     115                    120                    125



Val Ala Lys Val Leu Gly Thr Gln Ile Ala Glu Leu Gly Lys Asn Leu  
 130 135 140  
 Gln Leu Asp Arg Val Val Phe Asp Arg Gly Pro Phe Lys Tyr His Gly  
 145 150 155 160  
 Ile Val Ser Met Val Ala Asp Gly Ala Arg Glu Gly Gly Leu Gln Phe  
 165 170 175

<210> 635  
 <211> 184  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 635  
 Ser Met Ser Arg Lys Ala Arg Glu Pro Ile Leu Leu Pro Gln Gly Val  
 1 5 10 15  
 Glu Val Ser Ile Gln Asp Asp Lys Ile Ile Val Lys Gly Pro Lys Gly  
 20 25 30  
 Ser Leu Thr Gln Lys Ser Val Lys Glu Val Glu Ile Thr Leu Lys Asp  
 35 40 45  
 Asn Ser Ile Phe Val His Ala Ala Pro His Val Val Asp Arg Pro Ser  
 50 55 60  
 Cys Met Gln Gly Leu Tyr Trp Ala Leu Ile Ser Asn Met Val Gln Gly  
 65 70 75 80  
 Val His Leu Gly Phe Glu Lys Arg Leu Glu Met Ile Gly Val Gly Phe  
 85 90 95  
 Arg Ala Ser Val Gln Gly Ala Phe Leu Asp Leu Ser Ile Gly Val Ser  
 100 105 110  
 His Pro Thr Lys Ile Pro Ile Pro Ser Thr Leu Gln Val Ser Val Glu  
 115 120 125  
 Lys Asn Thr Leu Ile Ser Val Lys Gly Leu Asp Lys Gln Leu Val Gly  
 130 135 140  
 Glu Phe Ala Ala Ser Ile Arg Ala Lys Arg Pro Pro Glu Pro Tyr Lys  
 145 150 155 160  
 Gly Lys Gly Ile Arg Tyr Glu Asn Glu Tyr Val Arg Arg Lys Ala Gly  
 165 170 175  
 Lys Ala Ala Lys Thr Gly Lys Lys  
 180

<210> 636  
 <211> 143  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 636  
 Glu Ser Ser Ile Lys Arg Lys Arg Ile Tyr Met Gly Met Thr Ser Asp  
 1 5 10 15  
 Ser Ile Ala Asp Leu Leu Thr Arg Ile Arg Asn Ala Leu Met Ala Glu  
 20 25 30  
 His Leu Tyr Val Asp Val Glu His Ser Lys Met Arg Glu Ala Ile Val  
 35 40 45  
 Lys Ile Leu Lys His Lys Gly Phe Val Ala His Tyr Leu Val Lys Glu  
 50 55 60  
 Glu Asn Arg Lys Arg Ala Met Arg Val Phe Leu Gln Tyr Ser Asp Asp  
 65 70 75 80  
 Arg Lys Pro Val Ile His Gln Leu Lys Arg Val Ser Lys Pro Ser Arg  
 85 90 95  
 Arg Val Tyr Val Ser Ala Ala Lys Ile Pro Tyr Val Phe Gly Asn Met  
 100 105 110  
 Gly Ile Ser Val Leu Ser Thr Ser Gln Gly Val Met Glu Gly Ser Leu  
 115 120 125

Ala Arg Ser Lys Asn Ile Gly Gly Glu Leu Leu Cys Leu Val Trp  
 130 135 140

<210> 637  
 <211> 186  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 637  
 Gly Glu Arg Lys Ala Asn Met Ser Arg Leu Lys Lys Phe Tyr Thr Glu  
 1 5 10 15  
 Glu Ile Arg Lys Ser Leu Phe Glu Lys Phe Gly Tyr Ala Asn Lys Met  
 20 25 30  
 Gln Ile Pro Val Leu Lys Lys Ile Val Leu Ser Met Gly Leu Ala Glu  
 35 40 45  
 Ala Ala Lys Asp Lys Asn Leu Phe Gln Ala His Leu Glu Glu Leu Thr  
 50 55 60  
 Met Ile Ser Gly Gln Lys Pro Leu Val Thr Lys Ala Arg Asn Ser Ile  
 65 70 75 80  
 Ala Gly Phe Lys Leu Arg Glu Gly Gln Gly Ile Gly Ala Lys Val Thr  
 85 90 95  
 Leu Arg Gly Ile Arg Met Tyr Asp Phe Met Asp Arg Phe Cys Asn Ile  
 100 105 110  
 Val Ser Pro Arg Ile Arg Asp Phe Arg Gly Phe Ser Asn Lys Gly Asp  
 115 120 125  
 Gly Arg Gly Cys Tyr Ser Val Gly Leu Asp Asp Gln Gln Ile Phe Pro  
 130 135 140  
 Glu Ile Asn Leu Asp Arg Val Lys Arg Thr Gln Gly Leu Asn Ile Thr  
 145 150 155 160  
 Trp Val Thr Thr Ala Gln Thr Asp Asp Glu Cys Thr Thr Leu Leu Glu  
 165 170 175  
 Leu Met Gly Leu Arg Phe Lys Lys Ala Gln  
 180 185

<210> 638  
 <211> 117  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 638  
 Phe Lys Glu Lys Glu Val Met Lys Lys Gln Asn Ile Arg Val Gly Asp  
 1 5 10 15  
 Lys Val Phe Ile Leu Ala Gly Asn Asp Lys Gly Lys Glu Gly Lys Val  
 20 25 30  
 Leu Ser Leu Thr Glu Asp Lys Val Val Val Glu Gly Val Asn Val Arg  
 35 40 45  
 Ile Lys Asn Ile Lys Arg Ser Gln Gln Asn Pro Lys Gly Lys Arg Ile  
 50 55 60  
 Ser Ile Glu Ala Pro Ile His Ile Ser Asn Val Arg Leu Thr Ile Ala  
 65 70 75 80  
 Gly Glu Pro Ala Lys Leu Ser Val Lys Val Thr Glu Gln Gly Arg Glu  
 85 90 95  
 Leu Trp Gln Arg Arg Pro Asp Gly Thr Ser Gln Leu Tyr Arg Leu Val  
 100 105 110  
 Arg Gly Lys Lys Gly  
 115

<210> 639  
 <211> 125  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 639  
 Ile Glu Ile Met Ile Gln Gln Glu Ser Gln Leu Lys Val Ala Asp Asn  
 1 5 10 15  
 Thr Gly Ala Lys Lys Val Lys Cys Phe Lys Val Leu Gly Gly Ser Arg  
 20 25 30  
 Arg Arg Tyr Ala Thr Val Gly Asp Val Ile Val Cys Ser Val Arg Asp  
 35 40 45  
 Val Glu Pro Asn Ser Ser Ile Lys Lys Gly Asp Val Ile Lys Ala Val  
 50 55 60  
 Ile Val Arg Thr Arg Arg His Ile Thr Arg Lys Asp Gly Ser Thr Leu  
 65 70 75 80  
 Lys Phe Asp Thr Asn Ser Cys Val Ile Ile Asp Asp Lys Gly Asn Pro  
 85 90 95  
 Lys Gly Thr Arg Ile Phe Gly Pro Val Ala Arg Glu Ile Arg Asp Arg  
 100 105 110  
 Gly Phe Ile Lys Ile Ser Ser Leu Ala Pro Glu Val Ile  
 115 120 125

<210> 640  
 <211> 94  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 640  
 Asn Lys Lys Glu Lys Val Lys Ser Met Ala Ser Glu Pro Arg Gly Ser  
 1 5 10 15  
 Arg Lys Val Lys Ile Gly Val Val Val Ser Ala Lys Met Glu Lys Thr  
 20 25 30  
 Val Val Val Arg Val Glu Arg Ile Phe Ser His Pro Gln Tyr Leu Lys  
 35 40 45  
 Val Val Arg Ser Ser Lys Lys Tyr Tyr Ala His Thr Glu Leu Lys Val  
 50 55 60  
 Ser Glu Gly Asp Lys Val Lys Ile Gln Glu Thr Arg Pro Leu Ser Lys  
 65 70 75 80  
 Leu Lys Arg Trp Arg Val Ile Glu His Val Gly Val Val Ser  
 85 90

<210> 641  
 <211> 79  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 641  
 Ala Ser Gly Lys Gly Ile Asn Met Ala Ala Lys Lys Asp Leu Leu Thr  
 1 5 10 15  
 Gln Leu Arg Gly Lys Ser Asp Asp Asp Leu Asp Ala Tyr Val His Glu  
 20 25 30  
 Asn Lys Lys Ala Leu Phe Ala Leu Arg Ala Glu Asn Leu Leu Gln Asn  
 35 40 45  
 Lys Val Val Lys Val His Met Phe Ser Thr His Lys Lys Asn Ile Ala  
 50 55 60  
 Arg Ala Leu Thr Val Lys Gln Glu Arg Lys Gly Lys Val His Gly  
 65 70 75

<210> 642  
 <211> 140  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 642

Ile	Ile	Met	Leu	Met	Pro	Lys	Arg	Thr	Lys	Phe	Arg	Lys	Gln	Gln	Lys
1				5					10					15	
Gly	Gln	Phe	Ala	Gly	Leu	Ser	Lys	Gly	Ala	Thr	Phe	Val	Asp	Phe	Gly
			20					25					30		
Glu	Tyr	Ala	Met	Gln	Thr	Leu	Glu	Arg	Gly	Trp	Val	Thr	Ser	Arg	Gln
		35					40					45			
Ile	Glu	Ala	Cys	Arg	Val	Ala	Ile	Asn	Arg	Tyr	Leu	Lys	Arg	Arg	Gly
	50					55				60					
Lys	Val	Trp	Ile	Arg	Ile	Phe	Pro	Asp	Lys	Ser	Val	Thr	Lys	Lys	Pro
65					70					75					80
Ala	Glu	Thr	Arg	Met	Gly	Lys	Gly	Lys	Gly	Ala	Pro	Asp	His	Trp	Val
				85					90					95	
Ala	Val	Val	Arg	Pro	Gly	Arg	Ile	Leu	Phe	Glu	Val	Ala	Asn	Val	Ser
			100					105					110		
Lys	Glu	Asp	Ala	Gln	Asp	Ala	Leu	Arg	Arg	Ala	Ala	Ala	Lys	Leu	Gly
		115					120						125		
Ile	Lys	Thr	Arg	Phe	Val	Lys	Arg	Val	Glu	Arg	Val				
	130					135					140				

<210> 643

<211> 228

<212> PRT

<213> Chlamydia pneumoniae

<400> 643

Lys	Gly	Arg	Arg	Ile	Met	Gly	Gln	Lys	Gly	Cys	Pro	Ile	Gly	Phe	Arg
1				5					10					15	
Thr	Gly	Val	Thr	Lys	Arg	Trp	Arg	Ser	Leu	Trp	Tyr	Gly	Asn	Lys	Gln
			20					25					30		
Glu	Phe	Gly	Lys	Phe	Leu	Ile	Glu	Asp	Val	Arg	Ile	Arg	Gln	Phe	Leu
		35					40					45			
Arg	Lys	Lys	Pro	Ser	Cys	Gln	Gly	Ala	Ala	Gly	Phe	Val	Val	Arg	Arg
	50					55				60					
Met	Ser	Gly	Lys	Ile	Glu	Val	Thr	Ile	Gln	Thr	Ala	Arg	Pro	Gly	Leu
65					70					75					80
Val	Ile	Gly	Lys	Lys	Gly	Ala	Glu	Val	Asp	Leu	Leu	Lys	Glu	Glu	Leu
				85					90					95	
Arg	Ala	Leu	Thr	Gly	Lys	Glu	Val	Trp	Leu	Glu	Ile	Ala	Glu	Ile	Lys
			100					105					110		
Arg	Pro	Glu	Leu	Asn	Ala	Lys	Leu	Val	Ala	Asp	Asn	Ile	Ala	Arg	Gln
		115					120					125			
Ile	Glu	Arg	Arg	Val	Ser	Phe	Arg	Arg	Ala	Met	Lys	Lys	Ala	Met	Gln
	130					135					140				
Ser	Val	Met	Asp	Ala	Gly	Ala	Val	Gly	Val	Lys	Ile	Gln	Val	Ser	Gly
145					150					155					160
Arg	Leu	Ala	Gly	Ala	Glu	Ile	Ala	Arg	Ser	Glu	Trp	Tyr	Lys	Asn	Gly
			165						170					175	
Arg	Val	Pro	Leu	His	Thr	Leu	Arg	Ala	Asp	Ile	Asp	Tyr	Ala	Thr	Ala
			180					185					190		
Cys	Ala	Glu	Thr	Thr	Tyr	Gly	Ile	Ile	Gly	Ile	Lys	Val	Trp	Ile	Asn
		195					200					205			
Leu	Gly	Glu	Asn	Ser	Ser	Ser	Thr	Thr	Pro	Asn	Asn	Pro	Ala	Ala	Pro
	210					215						220			
Ser	Ala	Ala	Ala												
225															

<210> 644

<211> 115

<212> PRT

<213> Chlamydia pneumoniae

<400> 644  
 Arg Arg His Ser Met Phe Lys Ala Thr Ala Arg Tyr Ile Arg Val Gln  
 1 5 10 15  
 Pro Arg Lys Ala Arg Leu Ala Ala Gly Leu Met Arg Asn Leu Ser Val  
 20 25 30  
 Gln Glu Ala Glu Glu Gln Leu Gly Phe Ser Gln Leu Lys Ala Gly Arg  
 35 40 45  
 Cys Leu Lys Lys Val Leu Asn Ser Ala Val Ala Asn Ala Glu Leu His  
 50 55 60  
 Glu Asn Ile Lys Arg Glu Asn Leu Ser Val Thr Glu Val Arg Val Asp  
 65 70 75 80  
 Ala Gly Pro Val Tyr Lys Arg Ser Lys Ser Lys Ser Arg Gly Gly Arg  
 85 90 95  
 Ser Pro Ile Leu Lys Arg Thr Ser His Leu Thr Val Ile Val Gly Glu  
 100 105 110  
 Lys Glu Arg  
 115

<210> 645  
 <211> 92  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 645  
 Glu Ile Arg Ile Met Gly Arg Ser Leu Arg Lys Gly Pro Phe Val Asp  
 1 5 10 15  
 His His Leu Leu Lys Lys Val Arg Ala Met Asn Ile Glu Glu Lys Lys  
 20 25 30  
 Thr Pro Ile Lys Thr Trp Ser Arg Arg Ser Met Ile Thr Pro Glu Met  
 35 40 45  
 Ile Gly His Thr Phe Glu Val His Asn Gly Lys Lys Phe Leu Thr Val  
 50 55 60  
 Phe Val Ser Glu Thr Met Val Gly His Lys Leu Gly Glu Phe Ser Pro  
 65 70 75 80  
 Thr Arg Ile Phe Lys Ser His Pro Val Lys Lys Gly  
 85 90

<210> 646  
 <211> 291  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 646  
 Phe Ile Arg Glu Ile Asn Ser Met Phe Lys Lys Phe Lys Pro Val Thr  
 1 5 10 15  
 Pro Gly Thr Arg Gln Leu Val Leu Pro Ala Phe Asp Glu Leu Thr Thr  
 20 25 30  
 Arg Gly Glu Leu Arg Gly Thr Lys Ser Lys Arg Ser Leu Arg Pro Asn  
 35 40 45  
 Lys Lys Leu Ser Phe Phe Lys Lys Ser Ser Gly Gly Arg Asp Asn Leu  
 50 55 60  
 Gly His Ile Ser Cys Arg His Arg Gly Gly Gly Ala Lys Gln Leu Tyr  
 65 70 75 80  
 Arg Val Val Asp Phe Lys Arg Asn Lys Asp Gly Ile Thr Ala Lys Val  
 85 90 95  
 Val Thr Val Glu Tyr Asp Pro Asn Arg Ser Ala Tyr Ile Ala Leu Leu  
 100 105 110  
 Ser Tyr Glu Asp Gly Glu Lys Arg Tyr Ile Leu Ala Pro Lys Gly Ile  
 115 120 125  
 Gln Arg Gly Asp Val Val Val Ser Gly Glu Gly Ser Pro Phe Lys Pro  
 130 135 140

Gly	Cys	Cys	Met	Thr	Leu	Lys	Ser	Ile	Pro	Leu	Gly	Leu	Ser	Val	His
145					150					155					160
Asn	Ile	Glu	Met	Arg	Pro	Ser	Ser	Gly	Gly	Lys	Leu	Val	Arg	Ser	Ala
				165					170						175
Gly	Leu	Ala	Ala	Gln	Val	Ile	Ala	Lys	Ser	Pro	Gly	Tyr	Val	Thr	Leu
			180					185					190		
Lys	Met	Pro	Ser	Gly	Glu	Phe	Arg	Met	Leu	Asn	Glu	Gly	Cys	Arg	Ala
		195					200					205			
Thr	Ile	Gly	Glu	Val	Ser	Asn	Ala	Asp	His	Asn	Leu	Arg	Val	Asp	Gly
	210					215					220				
Lys	Ala	Gly	Arg	Arg	Arg	Trp	Met	Gly	Val	Arg	Pro	Thr	Val	Arg	Gly
225					230					235					240
Thr	Ala	Met	Asn	Pro	Val	Asp	His	Pro	His	Gly	Gly	Gly	Glu	Gly	Arg
				245					250						255
His	Asn	Gly	Tyr	Ile	Pro	Arg	Thr	Pro	Trp	Gly	Lys	Val	Thr	Lys	Gly
			260					265					270		
Leu	Lys	Thr	Arg	Asp	Lys	Asn	Lys	Ser	Asn	Lys	Trp	Ile	Val	Lys	Asp
		275					280					285			
Arg	Arg	Lys													
		290													

<210> 647  
 <211> 112  
 <212> PRT  
 <213> Chlamydia pneumoniae

Asp	Met	Lys	Asp	Pro	Tyr	Asp	Val	Ile	Lys	Arg	His	Tyr	Val	Thr	Glu
1				5					10					15	
Lys	Ala	Lys	Met	Leu	Glu	His	Leu	Ser	Ala	Gly	Thr	Gly	Glu	Gly	Lys
			20					25					30		
Lys	Lys	Gly	Ser	Phe	Cys	Lys	Asp	Pro	Lys	Phe	Val	Phe	Ile	Val	Ser
		35					40					45			
His	Asp	Ala	Thr	Lys	Pro	Leu	Ile	Ala	Gln	Ala	Leu	Glu	Ala	Ile	Tyr
	50					55				60					
Val	Asp	Lys	Asn	Val	Lys	Val	Lys	Ser	Val	Asn	Thr	Ile	Asn	Val	Lys
65					70					75					80
Pro	Gln	Pro	Ala	Arg	Met	Phe	Arg	Gly	Arg	Arg	Lys	Gly	Lys	Thr	Ser
				85				90						95	
Gly	Phe	Lys	Lys	Ala	Ile	Val	Thr	Phe	Tyr	Gln	Gly	His	Ser	Val	Gly
			100					105						110	

<210> 648  
 <211> 229  
 <212> PRT  
 <213> Chlamydia pneumoniae

Tyr	Arg	Glu	Asp	Leu	Met	Val	Leu	Leu	Ser	Lys	Phe	Asp	Phe	Ser	Gly
1				5					10					15	
Asn	Lys	Ile	Gly	Glu	Val	Glu	Val	Ala	Asp	Ser	Leu	Phe	Ala	Asp	Glu
			20					25					30		
Gly	Asp	Gly	Leu	Gln	Leu	Ile	Lys	Asp	Tyr	Ile	Val	Ala	Ile	Arg	Ala
		35					40					45			
Asn	Lys	Arg	Gln	Trp	Ser	Ala	Cys	Thr	Arg	Asn	Arg	Ser	Glu	Val	Ser
	50					55				60					
His	Ser	Thr	Lys	Lys	Pro	Phe	Lys	Gln	Lys	Gly	Thr	Gly	Asn	Ala	Arg
65					70					75					80
Gln	Gly	Cys	Leu	Ala	Ser	Pro	Gln	Phe	Arg	Gly	Gly	Gly	Ile	Val	Phe
				85					90					95	

Gly	Pro	Lys	Pro	Lys	Phe	Asn	Gln	His	Val	Arg	Ile	Asn	Arg	Lys	Glu
			100					105					110		
Arg	Lys	Ala	Ala	Ile	Arg	Leu	Leu	Leu	Ala	Gln	Lys	Ile	Gln	Thr	Asn
		115					120					125			
Lys	Leu	Thr	Val	Val	Asp	Asp	Thr	Val	Phe	Val	Asp	Ala	Leu	Thr	Ala
		130				135					140				
Pro	Lys	Thr	Gln	Ser	Ala	Leu	Arg	Phe	Leu	Lys	Asp	Cys	Asn	Val	Glu
145					150					155					160
Cys	Arg	Ser	Ile	Leu	Phe	Ile	Asp	His	Leu	Asp	His	Val	Glu	Lys	Asn
				165					170					175	
Glu	Asn	Leu	Arg	Leu	Ser	Leu	Arg	Asn	Leu	Thr	Ala	Val	Lys	Gly	Phe
			180					185					190		
Val	Tyr	Gly	Ile	Asn	Ile	Asn	Gly	Tyr	Asp	Leu	Ala	Ser	Ala	His	Asn
		195					200					205			
Ile	Val	Ile	Ser	Lys	Lys	Ala	Leu	Gln	Glu	Leu	Val	Glu	Arg	Leu	Val
		210				215					220				
Ser	Glu	Thr	Lys	Asp											
225															

<210> 649  
 <211> 278  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 649

Tyr	Leu	Glu	Tyr	Phe	Ser	Tyr	Cys	Lys	Asn	Leu	Pro	Pro	Leu	Ile	Thr
1				5					10					15	
Cys	Pro	Phe	Ile	Phe	Leu	Arg	Glu	Asn	Phe	Leu	Phe	Phe	Leu	Glu	Asn
			20					25					30		
Ser	Ile	Ser	Lys	Ile	Leu	Ser	Arg	Phe	Val	Ser	Leu	Phe	Leu	Gln	Glu
		35					40					45			
Glu	Ser	Lys	Ser	Leu	Leu	Leu	Met	Asp	Lys	Phe	Met	Arg	Ser	His	Ile
	50					55					60				
Ser	Val	Met	Gly	Lys	Lys	Glu	Gly	Met	Ile	His	Ile	Phe	Asp	Lys	Asp
65					70					75					80
Gly	Ser	Leu	Val	Ala	Cys	Ser	Val	Ile	Arg	Val	Glu	Pro	Asn	Val	Val
				85					90					95	
Thr	Gln	Ile	Lys	Thr	Lys	Glu	Ser	Asp	Gly	Tyr	Phe	Ser	Leu	Gln	Ile
			100					105					110		
Gly	Ala	Glu	Glu	Met	Asn	Ala	Pro	Ala	His	Thr	Ile	Thr	Lys	Arg	Val
	115						120					125			
Ser	Lys	Pro	Lys	Leu	Gly	His	Leu	Arg	Lys	Ala	Gly	Gly	Arg	Val	Phe
	130					135					140				
Arg	Phe	Leu	Lys	Glu	Val	Arg	Gly	Ser	Glu	Glu	Ala	Leu	Asn	Gly	Val
145					150					155					160
Ser	Leu	Gly	Asp	Ala	Phe	Gly	Leu	Glu	Val	Phe	Glu	Asp	Val	Ser	Ser
				165					170					175	
Val	Asp	Val	Arg	Gly	Ile	Ser	Lys	Gly	Lys	Gly	Phe	Gln	Gly	Val	Met
		180						185					190		
Lys	Lys	Phe	Gly	Phe	Arg	Gly	Gly	Pro	Gly	Ser	His	Gly	Ser	Gly	Phe
	195						200					205			
His	Arg	His	Ala	Gly	Ser	Ile	Gly	Met	Arg	Ser	Thr	Pro	Gly	Arg	Cys
	210					215					220				
Phe	Pro	Gly	Ser	Lys	Arg	Pro	Ser	His	Met	Gly	Ala	Glu	Asn	Val	Thr
225					230					235					240
Val	Lys	Asn	Leu	Glu	Val	Ile	Lys	Val	Asp	Leu	Glu	Lys	Lys	Val	Leu
				245					250					255	
Leu	Val	Lys	Gly	Ala	Ile	Pro	Gly	Ala	Arg	Gly	Ser	Ile	Val	Ile	Val
			260					265					270		
Lys	His	Ser	Ser	Arg	Thr										
		275													

<210> 650  
 <211> 344  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 650  
 Phe Phe Phe Lys Lys Pro Cys Lys Glu Val Lys Met Ala Thr Asn Ala  
 1 5 10 15  
 Ile Arg Ser Ala Gly Ser Ala Ala Ser Lys Met Leu Leu Pro Val Ala  
 20 25 30  
 Lys Glu Pro Ala Ala Val Ser Ser Phe Ala Gln Lys Gly Ile Tyr Cys  
 35 40 45  
 Ile Gln Gln Phe Phe Thr Asn Pro Gly Asn Lys Leu Ala Lys Phe Val  
 50 55 60  
 Gly Ala Thr Lys Ser Leu Asp Lys Cys Phe Lys Leu Ser Lys Ala Val  
 65 70 75 80  
 Ser Asp Cys Val Val Gly Ser Leu Glu Glu Ala Gly Cys Thr Gly Asp  
 85 90 95  
 Ala Leu Thr Ser Ala Arg Asn Ala Gln Gly Met Leu Lys Thr Thr Arg  
 100 105 110  
 Glu Val Val Ala Leu Ala Asn Val Leu Asn Gly Ala Val Pro Ser Ile  
 115 120 125  
 Val Asn Ser Thr Gln Arg Cys Tyr Gln Tyr Thr Arg Gln Ala Phe Glu  
 130 135 140  
 Leu Gly Ser Lys Thr Lys Glu Arg Lys Thr Pro Gly Glu Tyr Ser Lys  
 145 150 155 160  
 Met Leu Leu Thr Arg Gly Asp Tyr Leu Leu Ala Ala Ser Arg Glu Ala  
 165 170 175  
 Cys Thr Ala Val Gly Ala Thr Thr Tyr Ser Ala Thr Phe Gly Val Leu  
 180 185 190  
 Arg Pro Leu Met Leu Ile Asn Lys Leu Thr Ala Lys Pro Phe Leu Asp  
 195 200 205  
 Lys Ala Thr Val Gly Asn Phe Gly Thr Ala Val Ala Gly Ile Met Thr  
 210 215 220  
 Ile Asn His Met Ala Gly Val Ala Gly Ala Val Gly Gly Ile Ala Leu  
 225 230 235 240  
 Glu Gln Lys Leu Phe Lys Arg Ala Lys Glu Ser Leu Tyr Asn Glu Arg  
 245 250 255  
 Cys Ala Leu Glu Asn Gln Gln Ser Gln Leu Ser Gly Asp Val Ile Leu  
 260 265 270  
 Ser Ala Glu Arg Ala Leu Arg Lys Glu His Val Ala Thr Leu Lys Arg  
 275 280 285  
 Asn Val Leu Thr Leu Leu Glu Lys Ala Leu Glu Leu Val Val Asp Gly  
 290 295 300  
 Val Lys Leu Ile Pro Leu Pro Ile Thr Val Ala Cys Ser Ala Ala Ile  
 305 310 315 320  
 Ser Gly Ala Leu Thr Ala Ala Ser Ala Gly Ile Gly Leu Tyr Ser Ile  
 325 330 335  
 Trp Gln Lys Thr Lys Ser Gly Lys  
 340

<210> 651  
 <211> 321  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 651  
 Leu Asn Leu Lys Val Val Tyr Phe Gly Thr Pro Thr Phe Ala Ala Thr  
 1 5 10 15  
 Val Leu Gln Asp Leu Leu His His Lys Ile Gln Ile Thr Ala Val Val  
 20 25 30



Thr	Arg	Val	Asp	Lys	Pro	Gln	Lys	Arg	Ser	Ala	Gln	Leu	Ile	Pro	Ser
	35						40					45			
Pro	Val	Lys	Thr	Ile	Ala	Leu	Thr	His	Gly	Leu	Pro	Leu	Leu	Gln	Pro
	50					55					60				
Ser	Lys	Ala	Ser	Asp	Pro	Gln	Phe	Ile	Glu	Glu	Leu	Arg	Ala	Phe	Asn
65					70				75						80
Ala	Asp	Val	Phe	Ile	Val	Val	Ala	Tyr	Gly	Ala	Ile	Leu	Arg	Gln	Ile
			85						90					95	
Val	Leu	Asp	Ile	Pro	Arg	Tyr	Gly	Cys	Tyr	Asn	Leu	His	Ala	Gly	Leu
		100						105					110		
Leu	Pro	Ala	Tyr	Arg	Gly	Ala	Ala	Pro	Ile	Gln	Arg	Cys	Ile	Met	Glu
	115						120					125			
Gly	Ala	Thr	Glu	Ser	Gly	Asn	Thr	Val	Ile	Arg	Met	Asp	Ala	Gly	Met
	130					135					140				
Asp	Thr	Gly	Asp	Met	Ala	Asn	Ile	Thr	Arg	Val	Pro	Ile	Gly	Pro	Asp
145					150					155					160
Met	Thr	Ser	Gly	Glu	Leu	Ala	Asp	Ala	Leu	Ala	Ser	Gln	Gly	Ala	Glu
			165						170					175	
Val	Leu	Ile	Lys	Thr	Leu	Gln	Gln	Ile	Glu	Ser	Gly	Gln	Leu	Gln	Leu
		180						185					190		
Val	Ser	Gln	Asp	Ala	Ala	Leu	Ala	Thr	Ile	Ala	Pro	Lys	Leu	Ser	Lys
	195						200					205			
Glu	Glu	Gly	Gln	Val	Pro	Trp	Asp	Lys	Pro	Ala	Lys	Glu	Ala	Tyr	Ala
	210					215					220				
His	Ile	Arg	Gly	Val	Thr	Pro	Ala	Pro	Gly	Ala	Trp	Thr	Leu	Phe	Ser
225					230					235					240
Phe	Ser	Glu	Lys	Ala	Pro	Lys	Arg	Leu	Met	Ile	Arg	Lys	Ala	Ser	Leu
			245						250					255	
Leu	Ala	Glu	Ala	Gly	Arg	Tyr	Gly	Ala	Pro	Gly	Thr	Val	Val	Val	Thr
		260					265						270		
Asp	Arg	Gln	Glu	Leu	Ala	Ile	Ala	Cys	Ser	Glu	Gly	Ala	Ile	Cys	Leu
	275						280					285			
His	Glu	Val	Gln	Val	Glu	Gly	Lys	Gly	Ser	Thr	Asn	Ser	Lys	Ser	Phe
	290					295					300				
Leu	Asn	Gly	Tyr	Pro	Ala	Lys	Lys	Leu	Lys	Ile	Val	Phe	Thr	Leu	Asn
305					310					315					320
Asn															

<210> 652  
 <211> 283  
 <212> PRT  
 <213> Chlamydia pneumoniae

Ser	Arg	Arg	Asn	Met	Ala	Ser	Ile	His	Pro	Thr	Ala	Ile	Ile	Glu	Pro
1				5					10					15	
Gly	Ala	Lys	Ile	Gly	Lys	Asp	Val	Val	Ile	Glu	Pro	Tyr	Val	Val	Ile
			20					25					30		
Lys	Ala	Thr	Val	Thr	Leu	Cys	Asp	Asn	Val	Val	Val	Lys	Ser	Tyr	Ala
		35					40					45			
Tyr	Ile	Asp	Gly	Asn	Thr	Thr	Ile	Gly	Lys	Gly	Thr	Thr	Ile	Trp	Pro
	50					55					60				
Ser	Ala	Met	Ile	Gly	Asn	Lys	Pro	Gln	Asp	Leu	Lys	Tyr	Gln	Gly	Glu
65					70					75					80
Lys	Thr	Tyr	Val	Thr	Ile	Gly	Glu	Asn	Cys	Glu	Ile	Arg	Glu	Phe	Ala
			85						90					95	
Ile	Ile	Thr	Ser	Ser	Thr	Phe	Glu	Gly	Thr	Thr	Val	Ser	Ile	Gly	Asn
		100						105					110		
Asn	Cys	Leu	Ile	Met	Pro	Trp	Ala	His	Val	Ala	His	Asn	Cys	Thr	Ile
		115					120						125		

Gly	Asn	Asn	Val	Val	Leu	Ser	Asn	His	Ala	Gln	Leu	Ala	Gly	His	Val
130						135					140				
Gln	Val	Gly	Asp	Tyr	Ala	Ile	Leu	Gly	Gly	Met	Val	Gly	Val	His	Gln
145					150					155					160
Phe	Val	Arg	Ile	Gly	Ala	His	Ala	Met	Val	Gly	Ala	Leu	Ser	Gly	Ile
				165					170					175	
Arg	Arg	Asp	Val	Pro	Pro	Tyr	Thr	Ile	Gly	Ser	Gly	Asn	Pro	Tyr	Gln
			180					185					190		
Leu	Ala	Gly	Ile	Asn	Lys	Val	Gly	Leu	Gln	Arg	Arg	Gln	Val	Pro	Phe
	195						200					205			
Ala	Thr	Arg	Leu	Ala	Leu	Ile	Lys	Ala	Phe	Lys	Lys	Ile	Tyr	Arg	Ala
	210					215					220				
Asp	Gly	Cys	Phe	Phe	Glu	Ser	Leu	Glu	Glu	Thr	Leu	Glu	Glu	Tyr	Gly
225					230					235					240
Asp	Ile	Pro	Glu	Val	Lys	Asn	Phe	Ile	Glu	Phe	Cys	Gln	Ser	Pro	Ser
				245					250					255	
Lys	Arg	Gly	Ile	Glu	Arg	Ser	Ile	Asp	Lys	Gln	Ala	Leu	Glu	Glu	Glu
			260					265					270		
Ser	Ala	Asp	Lys	Glu	Gly	Val	Leu	Ile	Glu	Ser					
	275						280								

<210> 653  
 <211> 153  
 <212> PRT  
 <213> Chlamydia pneumoniae

Met	Asn	Gln	Pro	Ser	Val	Ile	Lys	Leu	Arg	Glu	Leu	Leu	Asp	Leu	Leu
1				5					10					15	
Pro	His	Arg	Tyr	Pro	Phe	Leu	Leu	Val	Asp	Lys	Val	Leu	Ser	Tyr	Asp
			20					25					30		
Ile	Glu	Ala	Arg	Ser	Ile	Thr	Ala	Gln	Lys	Asn	Val	Thr	Ile	Asn	Glu
	35					40					45				
Pro	Phe	Phe	Met	Gly	His	Phe	Pro	Asn	Ala	Pro	Ile	Met	Pro	Gly	Val
	50				55						60				
Leu	Ile	Leu	Glu	Ala	Leu	Ala	Gln	Ala	Ala	Gly	Val	Leu	Ile	Gly	Leu
65					70					75					80
Val	Leu	Glu	Asn	Asp	Arg	Asn	Lys	Arg	Ile	Ala	Leu	Phe	Leu	Gly	Ile
			85					90					95		
Gln	Lys	Ala	Lys	Phe	Arg	Gln	Ala	Val	Arg	Pro	Gly	Asp	Val	Leu	Thr
			100					105					110		
Leu	Gln	Ala	Asp	Phe	Ser	Leu	Ile	Ser	Ser	Lys	Gly	Gly	Lys	Ala	Trp
	115					120					125				
Ala	Gln	Ala	Arg	Val	Asp	Ser	Gln	Leu	Val	Thr	Glu	Ala	Glu	Leu	Ser
	130					135					140				
Phe	Ala	Leu	Val	Asp	Lys	Glu	Ser	Ile							
145					150										

<210> 654  
 <211> 297  
 <212> PRT  
 <213> Chlamydia pneumoniae

Lys	Arg	Asn	Ser	Ile	Ile	Tyr	Gly	Asp	Ser	Leu	Ser	Gly	Phe	Tyr	Met
1				5					10					15	
Leu	Glu	Arg	Thr	Gln	Arg	Thr	Leu	Lys	Arg	Glu	Val	Arg	Tyr	Ser	Gly
			20					25					30		
Val	Gly	Ile	His	Leu	Gly	Lys	Ser	Ser	Thr	Leu	His	Leu	Gln	Pro	Ala
	35						40					45			

Gln	Thr	Asn	Thr	Gly	Ile	Val	Phe	Gln	Arg	Gln	Ser	Ala	Ser	Gly	Asn
50						55					60				
Tyr	Glu	Asn	Val	Pro	Ala	Leu	Leu	Asp	His	Val	Tyr	Thr	Thr	Gly	Arg
65					70					75					80
Ser	Thr	Thr	Leu	Ser	Arg	Gly	Ser	Ala	Val	Ile	Ala	Thr	Val	Glu	His
			85						90					95	
Leu	Met	Ala	Ala	Leu	Arg	Ser	Asn	Asn	Ile	Asp	Asn	Leu	Ile	Ile	Gln
			100					105					110		
Cys	Ser	Gly	Glu	Glu	Ile	Pro	Ile	Gly	Asp	Gly	Ser	Ser	Asn	Val	Phe
		115					120					125			
Val	Glu	Leu	Ile	Asp	Gln	Ala	Gly	Ile	Cys	Glu	Gln	Glu	Asp	Lys	Val
		130				135					140				
Ser	Ile	Ala	Arg	Leu	Thr	Arg	Pro	Val	Tyr	Tyr	Gln	His	Gln	Asp	Ile
145					150					155					160
Phe	Leu	Ala	Ala	Phe	Pro	Ser	Asp	Glu	Leu	Lys	Ile	Ser	Tyr	Thr	Leu
			165					170						175	
His	Tyr	Pro	Gln	Ser	Ser	Thr	Ile	Gly	Thr	Gln	Tyr	Lys	Ser	Leu	Val
			180					185					190		
Ile	Asn	Glu	Glu	Ser	Phe	Arg	Gln	Glu	Ile	Ala	Pro	Cys	Arg	Thr	Phe
		195					200					205			
Ala	Leu	Tyr	Asn	Glu	Leu	Cys	Phe	Leu	Met	Glu	Lys	Gly	Leu	Ile	Gly
		210				215					220				
Gly	Gly	Cys	Leu	Asp	Asn	Ala	Val	Val	Phe	Lys	Asp	Asp	Gly	Ile	Ile
225					230					235					240
Ser	Arg	Gly	Gln	Leu	Arg	Phe	Ala	Asp	Glu	Pro	Val	Arg	His	Lys	Ile
				245				250						255	
Leu	Asp	Leu	Ile	Gly	Asp	Leu	Ser	Leu	Val	Gly	Arg	Pro	Phe	Val	Ala
			260					265					270		
His	Val	Leu	Ala	Val	Gly	Ser	Gly	His	Ser	Ser	Asn	Ile	Ala	Phe	Gly
		275					280					285			
Lys	Lys	Ile	Leu	Glu	Ala	Leu	Glu	Leu							
		290				295									

<210> 655

<211> 544

<212> PRT

<213> Chlamydia pneumoniae

<400> 655

Gly	Glu	Pro	Val	Leu	Arg	Ile	Phe	Cys	Phe	Val	Ile	Ser	Trp	Cys	Leu
1				5					10					15	
Ile	Ala	Phe	Ala	Gln	Pro	Asp	Leu	Ser	Gly	Phe	Val	Ser	Ile	Leu	Gly
			20					25					30		
Ala	Ala	Cys	Gly	Tyr	Gly	Phe	Phe	Trp	Tyr	Ser	Leu	Glu	Pro	Leu	Lys
		35					40				45				
Lys	Pro	Ser	Leu	Pro	Leu	Arg	Thr	Leu	Phe	Val	Ser	Cys	Phe	Phe	Trp
		50				55					60				
Ile	Phe	Thr	Ile	Glu	Gly	Ile	His	Phe	Ser	Trp	Met	Leu	Ser	Asp	Gln
65				70						75				80	
Tyr	Ile	Gly	Lys	Leu	Ile	Tyr	Leu	Val	Trp	Leu	Thr	Leu	Ile	Thr	Ile
			85						90				95		
Leu	Ser	Val	Leu	Phe	Ser	Gly	Phe	Ser	Cys	Leu	Leu	Val	Ala	Ile	Val
			100					105					110		
Arg	Gln	Lys	Arg	Thr	Ala	Phe	Leu	Trp	Ser	Leu	Pro	Gly	Val	Trp	Val
		115					120					125			
Ala	Ile	Glu	Met	Leu	Arg	Phe	Tyr	Gly	Ile	Phe	Ser	Gly	Met	Ser	Phe
		130				135					140				
Asp	Tyr	Leu	Gly	Trp	Pro	Met	Thr	Ala	Ser	Ala	Tyr	Gly	Arg	Gln	Phe
145					150					155					160
Gly	Gly	Phe	Leu	Gly	Trp	Ala	Gly	Gln	Ser	Phe	Ala	Val	Ile	Ala	Val
				165					170					175	

Asn	Met	Ser	Phe	Tyr	Cys	Leu	Leu	Leu	Lys	Lys	Pro	His	Ala	Lys	Met
			180					185					190		
Leu	Trp	Val	Leu	Thr	Leu	Leu	Leu	Pro	Tyr	Thr	Phe	Gly	Ala	Ile	His
		195					200					205			
Tyr	Glu	Tyr	Leu	Lys	His	Ala	Phe	Gln	Gln	Asp	Lys	Arg	Ala	Leu	Arg
	210					215					220				
Val	Ala	Val	Val	Gln	Pro	Ala	His	Pro	Pro	Ile	Arg	Pro	Lys	Leu	Lys
225					230					235					240
Ser	Pro	Ile	Val	Val	Trp	Glu	Gln	Leu	Leu	Gln	Leu	Val	Ser	Pro	Ile
				245					250					255	
Gln	Gln	Pro	Ile	Asp	Leu	Leu	Ile	Phe	Pro	Glu	Val	Val	Val	Pro	Phe
			260					265						270	
Gly	Lys	His	Arg	Gln	Val	Tyr	Pro	Tyr	Glu	Ser	Cys	Ala	His	Leu	Leu
		275					280					285			
Ser	Ser	Phe	Ala	Pro	Leu	Pro	Glu	Gly	Lys	Ala	Phe	Leu	Ser	Asn	Ser
	290					295					300				
Asp	Cys	Ala	Thr	Ala	Leu	Ser	Gln	His	Phe	Gln	Cys	Pro	Val	Ile	Ile
305					310					315					320
Gly	Leu	Glu	Arg	Trp	Val	Lys	Lys	Glu	Asn	Val	Leu	Tyr	Trp	Tyr	Asn
				325					330					335	
Ser	Ala	Glu	Val	Ile	Ser	His	Lys	Gly	Ile	Ser	Val	Gly	Tyr	Asp	Lys
			340					345					350		
Arg	Ile	Leu	Val	Pro	Gly	Gly	Glu	Tyr	Ile	Pro	Gly	Gly	Lys	Phe	Gly
		355					360					365			
Ser	Leu	Ile	Cys	Arg	Gln	Leu	Phe	Pro	Lys	Tyr	Ala	Leu	Gly	Cys	Lys
	370					375					380				
Arg	Leu	Pro	Gly	Arg	Arg	Ser	Gly	Val	Val	Gln	Val	Arg	Gly	Leu	Pro
385					390					395					400
Arg	Ile	Gly	Ile	Thr	Ile	Cys	Tyr	Glu	Glu	Thr	Phe	Gly	Tyr	Arg	Leu
				405					410					415	
Gln	Ser	Tyr	Lys	Arg	Gln	Gly	Ala	Glu	Leu	Leu	Val	Asn	Leu	Thr	Asn
			420					425					430		
Asp	Gly	Trp	Tyr	Pro	Glu	Ser	Arg	Leu	Pro	Lys	Val	His	Phe	Leu	His
		435					440					445			
Gly	Met	Leu	Arg	Asn	Gln	Glu	Phe	Gly	Met	Pro	Cys	Val	Arg	Ala	Cys
	450					455					460				
Gln	Thr	Gly	Val	Thr	Ala	Ala	Val	Asp	Ser	Leu	Gly	Arg	Ile	Leu	Lys
465					470					475					480
Ile	Leu	Pro	Tyr	Asp	Thr	Arg	Glu	Thr	Lys	Ala	Pro	Ser	Gly	Val	Leu
				485					490					495	
Glu	Thr	Ser	Leu	Pro	Leu	Phe	Asn	Tyr	Lys	Thr	Leu	Tyr	Gly	Tyr	Cys
			500					505					510		
Gly	Asp	Tyr	Pro	Met	Ile	Leu	Ile	Ala	Phe	Cys	Ala	Val	Ser	Tyr	Leu
		515					520					525			
Gly	Gly	Gly	Phe	Leu	Gly	Tyr	Arg	Leu	Leu	Ala	Lys	Lys	Glu	Ile	Arg
	530					535					540				

<210> 656

<211> 183

<212> PRT

<213> Chlamydia pneumoniae

<400> 656

Lys	Lys	Ile	Ile	Asp	Phe	Leu	Ser	Val	Asp	Arg	Tyr	Tyr	Arg	Asn	Gln
1				5					10					15	
Glu	Tyr	Pro	Ile	Lys	Ile	Leu	Ser	Val	Glu	Ser	Thr	Met	Leu	Lys	Lys
			20					25				30			
Lys	Pro	Val	Ser	Phe	Ser	Cys	Ile	Asp	Gly	His	Ile	Tyr	Lys	Ile	Phe
		35				40					45				
Pro	Asn	Asp	Leu	Asn	Ala	Asn	Asn	Thr	Val	Phe	Gly	Gly	Leu	Leu	Met
	50					55					60				

Ser Leu Leu Asp Arg Leu Ala Leu Val Val Ala Glu Arg His Thr Glu  
 65 70 75 80  
 Ser Val Cys Val Thr Ala Phe Val Asp Ala Leu Arg Phe Tyr Ala Pro  
 85 90 95  
 Ala Tyr Met Gly Glu Asn Leu Ile Cys Lys Ala Ala Val Asn Arg Thr  
 100 105 110  
 Trp Arg Thr Ser Leu Glu Val Gly Val Lys Val Trp Ala Glu Asn Ile  
 115 120 125  
 Tyr Lys Gln Glu Arg Arg His Ile Thr Ser Ala Tyr Phe Thr Phe Val  
 130 135 140  
 Ala Val Asn Glu Asp Asn Gln Pro Ile Pro Val His Gln Ile Val Pro  
 145 150 155 160  
 Glu Thr Pro Glu Glu Lys Arg Arg Tyr Asn Glu Ala Asp Arg Arg Arg  
 165 170 175  
 Gln Ala Arg Leu Glu Leu Lys  
 180

<210> 657

<211> 252

<212> PRT

<213> Chlamydia pneumoniae

<400> 657

Lys Glu Ile Met Ser Leu Leu Lys Asp Thr Val Phe Thr Cys Leu Asp  
 1 5 10 15  
 Cys Glu Met Thr Gly Leu Asp Val Lys Lys Asp Arg Ile Ile Glu Ile  
 20 25 30  
 Ala Ala Val Arg Phe Thr Phe Asp Ser Val Ile Ser Ser Ile Glu Phe  
 35 40 45  
 Leu Ile Asn Pro Glu Arg Val Val Ser Ala Glu Ser Gln Arg Val His  
 50 55 60  
 His Ile Ser Asn Ala Met Leu Arg Asp Gln Pro Lys Ile Ala Glu Val  
 65 70 75 80  
 Phe Pro Gln Ile Lys Ala Phe Phe Lys Glu Gly Asp Tyr Ile Val Gly  
 85 90 95  
 His Ser Val Gly Phe Asp Leu Gln Val Leu Ala Gln Glu Met Glu Arg  
 100 105 110  
 Ile Gly Glu Thr Phe Leu Ser Lys Tyr Thr Ile Ile Asp Thr Leu Arg  
 115 120 125  
 Leu Ala Lys Glu Tyr Gly Asp Ser Pro Asn Asn Ser Leu Glu Ser Leu  
 130 135 140  
 Ala Val His Phe Asn Val Pro Tyr Asp Gly Asn His Arg Ala Met Lys  
 145 150 155 160  
 Asp Val Glu Ile Asn Ile Asn Ile Phe Lys His Leu Cys Lys Arg Phe  
 165 170 175  
 Arg Thr Leu Glu Gln Leu Lys Gln Val Leu Ala Lys Pro Ile Lys Met  
 180 185 190  
 Lys Tyr Met Pro Leu Gly Lys His Lys Gly Arg Cys Phe Ser Glu Ile  
 195 200 205  
 Pro Leu Ala Tyr Leu Gln Trp Ala Ser Lys Met Asp Phe Asp Ser Asp  
 210 215 220  
 Leu Leu Phe Ser Ile Arg His Glu Ile Lys His Arg Gln Lys Gly Thr  
 225 230 235 240  
 Gly Phe Ser Gln Val Asn Asn Pro Phe Met Glu Leu  
 245 250

<210> 658

<211> 69

<212> PRT

<213> Chlamydia pneumoniae

<400> 658  
 Thr His Asn Phe Leu Leu Leu Pro Leu Ser Leu Phe Asp Ile Leu Leu  
 1 5 10 15  
 Thr Val Glu Gly Phe Leu Cys Leu Thr Leu Tyr Phe Ala Ser Val Gln  
 20 25 30  
 Arg Met Pro Cys Glu Gln Lys Arg Val Pro Gly Asn Leu Tyr Tyr Tyr  
 35 40 45  
 Tyr Ile Ala Ala His Ser Ser Leu Cys Leu Ser Val Cys Lys Asp Thr  
 50 55 60  
 Met Glu Asn Lys Asp  
 65

<210> 659  
 <211> 142  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 659  
 Pro Met Gly Arg Tyr Arg Arg Val Ser His Ser Ser Gln Glu Thr Leu  
 1 5 10 15  
 Leu Leu Gly Thr Glu Leu Gly Gln Val Leu Val Pro Gly Ala Val Leu  
 20 25 30  
 Leu Leu Phe Gly Asp Tyr Gly Ala Gly Lys Thr Glu Phe Val Arg Gly  
 35 40 45  
 Ile Val Ser Gly Tyr Leu Gly Asp Thr Ile Ala Glu Glu Val Ala Ser  
 50 55 60  
 Pro Ser Phe Ser Ile Leu His Val Tyr Gly Asn Glu Pro Lys Arg Leu  
 65 70 75 80  
 Cys His Tyr Asp Leu Tyr Arg Ile Asp Gln Lys Asn Gln Glu Tyr Ile  
 85 90 95  
 Phe Gln Asp Ala Glu Glu Asp Asp Val Leu Cys Ile Glu Trp Ala Asp  
 100 105 110  
 Arg Leu Pro Lys Pro Arg Phe Cys Asp Thr Ile Asn Ile Tyr Ile Thr  
 115 120 125  
 Met Gln Thr Asn Met Glu Arg Glu Ile Ile Ile Glu Lys Arg  
 130 135 140

<210> 660  
 <211> 242  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 660  
 Lys Arg Val Gly Met Asp Ile Ser Gly Ala Val Lys Gln Lys Leu Leu  
 1 5 10 15  
 Gln Phe Leu Gly Lys Gln Lys Lys Pro Glu Leu Leu Ala Thr Tyr Leu  
 20 25 30  
 Phe Tyr Leu Glu Gln Ala Leu Ser Leu Arg Pro Val Val Phe Val Arg  
 35 40 45  
 Asp Lys Ile Ile Phe Lys Thr Pro Glu Asp Ala Val Arg Ile Leu Glu  
 50 55 60  
 Gln Asp Lys Lys Ile Trp Arg Glu Thr Glu Ile Gln Ile Ser Ser Glu  
 65 70 75 80  
 Lys Pro Gln Val Asn Glu Asn Thr Lys Arg Ile Tyr Ile Cys Pro Phe  
 85 90 95  
 Thr Gly Lys Val Phe Ala Asp Asn Val Tyr Ala Asn Pro Gln Asp Ala  
 100 105 110  
 Ile Tyr Asp Trp Leu Ser Ser Cys Pro Gln Asn Met Glu Lys Gln Gly  
 115 120 125  
 Gly Val Arg Ile Lys Arg Phe Leu Val Ser Glu Asp Pro Asp Val Ile  
 130 135 140

Lys	Glu	Tyr	Ala	Val	Pro	Pro	Lys	Glu	Pro	Ile	Ile	Lys	Thr	Val	Phe
145					150					155					160
Ala	Ser	Ala	Ile	Thr	Gly	Lys	Leu	Phe	His	Ser	Leu	Pro	Pro	Leu	Leu
				165					170						175
Glu	Asp	Phe	Ile	Ser	Ser	Tyr	Leu	Arg	Pro	Met	Thr	Leu	Glu	Glu	Val
			180					185					190		
Gln	Asn	Gln	Thr	Lys	Phe	Gln	Leu	Glu	Ser	Ser	Phe	Leu	Ser	Leu	Leu
	195						200					205			
Gln	Asp	Ala	Leu	Val	Glu	Asp	Lys	Ile	Ala	Ala	Phe	Ile	Glu	Ser	Leu
	210					215					220				
Ala	Asp	Asp	Thr	Ala	Phe	His	Val	Tyr	Ile	Ser	Gln	Trp	Val	Asp	Thr
225					230					235					240
Glu	Glu														

<210> 661  
 <211> 120  
 <212> PRT  
 <213> Chlamydia pneumoniae

Leu	Gln	Glu	Asn	Asn	Arg	Asp	Ser	Asn	Ser	Ile	Phe	Phe	Arg	Glu	Gly
1				5					10					15	
Lys	Leu	Met	Val	Lys	Ile	Ile	Ser	Ser	Glu	Asn	Phe	Asp	Ser	Phe	Ile
			20					25					30		
Ala	Ser	Gly	Leu	Val	Leu	Val	Asp	Phe	Phe	Ala	Glu	Trp	Cys	Gly	Pro
		35					40					45			
Cys	Arg	Met	Leu	Thr	Pro	Ile	Leu	Glu	Asn	Leu	Ala	Ala	Glu	Leu	Pro
	50					55					60				
His	Val	Thr	Ile	Gly	Lys	Ile	Asn	Ile	Asp	Glu	Asn	Ser	Lys	Pro	Ala
65					70				75						80
Glu	Thr	Tyr	Glu	Val	Ser	Ser	Ile	Pro	Thr	Leu	Ile	Leu	Phe	Lys	Asp
			85						90					95	
Gly	Asn	Glu	Val	Ala	Arg	Val	Val	Gly	Leu	Lys	Asp	Lys	Glu	Phe	Leu
			100					105					110		
Thr	Asn	Leu	Ile	Asn	Lys	His	Ala								
		115					120								

<210> 662  
 <211> 156  
 <212> PRT  
 <213> Chlamydia pneumoniae

Met	Arg	Val	Val	Leu	His	Cys	Pro	Asp	Ile	Pro	Gln	Asn	Thr	Gly	Asn
1				5					10					15	
Ile	Gly	Arg	Thr	Cys	Val	Ala	Leu	Gly	Ala	Glu	Leu	Ile	Leu	Val	Arg
			20					25					30		
Pro	Leu	Gly	Phe	Ser	Leu	Ala	Asp	Lys	Phe	Val	Lys	Arg	Ala	Gly	Met
		35					40					45			
Asp	Tyr	Trp	Asp	Lys	Leu	Gln	Leu	Thr	Val	Val	Asp	Ser	Ile	Glu	Glu
	50				55						60				
Ala	Leu	His	Asp	Val	Pro	Glu	Asp	Gln	Ile	Phe	Cys	Leu	Ser	Thr	Lys
65					70				75						80
Gly	Ser	Ala	Ser	Tyr	Thr	Glu	Phe	Ser	Leu	Pro	Ser	Ser	Gly	Thr	Tyr
			85					90					95		
Val	Phe	Gly	Ser	Glu	Ser	Lys	Gly	Leu	Pro	Lys	Glu	Ile	Leu	Lys	Lys
			100					105					110		
Tyr	Tyr	Lys	Asn	Cys	Leu	Arg	Ile	Pro	Met	Gln	Gln	Asp	Ile	Arg	Ser
		115					120					125			

Leu Asn Leu Ala Thr Ser Val Gly Ile Val Leu Tyr Glu Val Val Arg  
 130 135 140  
 Gln Lys Thr Val Ala Leu Gln Lys Asn Pro Thr Val  
 145 150 155

<210> 663  
 <211> 271  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 663  
 His Ser Arg Cys Leu Lys Ile Lys Asp Arg Arg Arg Lys Met Asn Arg  
 1 5 10 15  
 Arg Trp Asn Leu Val Leu Ala Thr Val Ala Leu Ala Leu Ser Val Ala  
 20 25 30  
 Ser Cys Asp Val Arg Ser Lys Asp Lys Asp Lys Asp Gln Gly Ser Leu  
 35 40 45  
 Val Glu Tyr Lys Asp Asn Lys Asp Thr Asn Asp Ile Glu Leu Ser Asp  
 50 55 60  
 Asn Gln Lys Leu Ser Arg Thr Phe Gly His Leu Leu Ala Arg Gln Leu  
 65 70 75 80  
 Arg Lys Ser Glu Asp Met Phe Phe Asp Ile Ala Glu Val Ala Lys Gly  
 85 90 95  
 Leu Gln Ala Glu Leu Val Cys Lys Ser Ala Pro Leu Thr Glu Thr Glu  
 100 105 110  
 Tyr Glu Glu Lys Met Ala Glu Val Gln Lys Leu Val Phe Glu Lys Lys  
 115 120 125  
 Ser Lys Glu Asn Leu Ser Leu Ala Glu Lys Phe Leu Lys Glu Asn Ser  
 130 135 140  
 Lys Asn Ala Gly Val Val Glu Val Gln Pro Ser Lys Leu Gln Tyr Lys  
 145 150 155 160  
 Ile Ile Lys Glu Gly Ala Gly Lys Ala Ile Ser Gly Lys Pro Ser Ala  
 165 170 175  
 Leu Leu His Tyr Lys Gly Ser Phe Ile Asn Gly Gln Val Phe Ser Ser  
 180 185 190  
 Ser Glu Gly Asn Asn Glu Pro Ile Leu Leu Pro Leu Gly Gln Thr Ile  
 195 200 205  
 Pro Gly Phe Ala Leu Gly Met Gln Gly Met Lys Glu Gly Glu Thr Arg  
 210 215 220  
 Val Leu Tyr Ile His Pro Asp Leu Ala Tyr Gly Thr Ala Gly Gln Leu  
 225 230 235 240  
 Pro Pro Asn Ser Leu Leu Ile Phe Glu Ile Asn Leu Ile Gln Ala Ser  
 245 250 255  
 Ala Asp Glu Val Ala Ala Val Pro Gln Glu Gly Asn Gln Gly Glu  
 260 265 270

<210> 664  
 <211> 589  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 664  
 Ser Lys Gly Cys Tyr Met Lys Tyr Arg Thr His Arg Cys Asn Glu Leu  
 1 5 10 15  
 Thr Ser Asn His Ile Gly Glu Asn Val Gln Leu Ala Gly Trp Val His  
 20 25 30  
 Arg Tyr Arg Asn His Gly Gly Val Val Phe Ile Asp Leu Arg Asp Arg  
 35 40 45  
 Phe Gly Ile Thr Gln Ile Val Cys Arg Glu Asp Glu Gln Pro Glu Leu  
 50 55 60



His	Gln	Arg	Leu	Asp	Ala	Val	Arg	Ser	Glu	Trp	Val	Leu	Ser	Val	Arg	
65					70					75					80	
Gly	Lys	Val	Cys	Pro	Arg	Leu	Ala	Gly	Met	Glu	Asn	Pro	Asn	Leu	Ala	
				85					90					95		
Thr	Gly	His	Ile	Glu	Val	Glu	Val	Ala	Ser	Phe	Glu	Val	Leu	Ser	Lys	
			100					105					110			
Ser	Gln	Asn	Leu	Pro	Phe	Ser	Ile	Ala	Asp	Asp	His	Ile	Asn	Val	Asn	
		115					120					125				
Glu	Glu	Leu	Arg	Leu	Glu	Tyr	Arg	Tyr	Leu	Asp	Met	Arg	Arg	Gly	Asp	
	130					135					140					
Ile	Ile	Glu	Lys	Leu	Leu	Cys	Arg	His	Gln	Val	Met	Leu	Ala	Cys	Arg	
145				150						155					160	
Asn	Phe	Met	Asp	Ala	Gln	Gly	Phe	Thr	Glu	Ile	Val	Thr	Pro	Val	Leu	
			165						170					175		
Gly	Lys	Ser	Thr	Pro	Glu	Gly	Ala	Arg	Asp	Tyr	Leu	Val	Pro	Ser	Arg	
			180					185					190			
Ile	Tyr	Pro	Gly	Lys	Phe	Tyr	Ala	Leu	Pro	Gln	Ser	Pro	Gln	Leu	Phe	
	195						200					205				
Lys	Gln	Leu	Leu	Met	Val	Gly	Gly	Leu	Asp	Arg	Tyr	Phe	Gln	Ile	Ala	
	210					215					220					
Thr	Cys	Phe	Arg	Asp	Glu	Asp	Leu	Arg	Ala	Asp	Arg	Gln	Pro	Glu	Phe	
225					230					235					240	
Ala	Gln	Ile	Asp	Ile	Glu	Met	Ser	Phe	Gly	Asp	Thr	Gln	Asp	Leu	Leu	
			245						250					255		
Pro	Ile	Ile	Glu	Gln	Leu	Val	Ala	Thr	Leu	Phe	Ala	Thr	Gln	Gly	Ile	
		260						265					270			
Glu	Ile	Pro	Leu	Pro	Leu	Ala	Lys	Met	Thr	Tyr	Gln	Glu	Ala	Lys	Asp	
	275						280					285				
Ser	Tyr	Gly	Thr	Asp	Lys	Pro	Asp	Leu	Arg	Phe	Asp	Leu	Lys	Leu	Lys	
	290					295					300					
Asp	Cys	Arg	Asp	Tyr	Ala	Lys	Arg	Ser	Ser	Phe	Ser	Ile	Phe	Leu	Asp	
305					310					315					320	
Gln	Leu	Ala	His	Gly	Gly	Thr	Ile	Lys	Gly	Phe	Cys	Val	Pro	Gly	Gly	
			325						330					335		
Ala	Thr	Met	Ser	Arg	Lys	Gln	Leu	Asp	Gly	Tyr	Thr	Glu	Phe	Val	Lys	
		340						345					350			
Arg	Tyr	Gly	Ala	Met	Gly	Leu	Val	Trp	Ile	Lys	Asn	Gln	Glu	Gly	Lys	
	355						360					365				
Val	Ala	Ser	Asn	Ile	Ala	Lys	Phe	Met	Asp	Glu	Glu	Val	Phe	His	Glu	
	370					375					380					
Leu	Phe	Ala	Tyr	Phe	Asp	Ala	Lys	Asp	Gln	Asp	Ile	Leu	Leu	Leu	Ile	
385					390					395					400	
Ala	Ala	Pro	Glu	Ser	Val	Ala	Asn	Gln	Ser	Leu	Asp	His	Leu	Arg	Arg	
			405						410					415		
Leu	Ile	Ala	Lys	Glu	Arg	Glu	Leu	Tyr	Ser	Asp	Asn	Gln	Tyr	Asn	Phe	
		420						425				430				
Val	Trp	Ile	Thr	Asp	Phe	Pro	Leu	Phe	Ser	Leu	Glu	Asp	Gly	Lys	Ile	
	435					440						445				
Val	Ala	Glu	His	His	Pro	Phe	Thr	Ala	Pro	Leu	Glu	Glu	Asp	Ile	Pro	
	450					455					460					
Leu	Leu	Glu	Thr	Asp	Pro	Leu	Ala	Val	Arg	Ser	Ser	Ser	Tyr	Asp	Leu	
465					470					475					480	
Val	Leu	Asn	Gly	Tyr	Glu	Ile	Ala	Ser	Gly	Ser	Gln	Arg	Ile	His	Asn	
			485						490					495		
Pro	Asp	Leu	Gln	Ser	Gln	Ile	Phe	Thr	Ile	Leu	Lys	Ile	Ser	Pro	Glu	
		500						505					510			
Ser	Ile	Gln	Glu	Lys	Phe	Gly	Phe	Phe	Ile	Lys	Ala	Leu	Ser	Phe	Gly	
	515					520						525				
Thr	Pro	Pro	His	Leu	Gly	Ile	Ala	Leu	Gly	Leu	Asp	Arg	Leu	Val	Met	
	530					535					540					

Val Leu Thr Ala Ala Glu Ser Ile Arg Glu Val Ile Ala Phe Pro Lys  
 545 550 555 560  
 Thr Gln Lys Ala Ser Asp Leu Met Met Asn Ala Pro Ser Glu Ile Met  
 565 570 575  
 Ser Ser Gln Leu Lys Glu Leu Ser Ile Lys Val Ala Phe  
 580 585

<210> 665

<211> 440

<212> PRT

<213> Chlamydia pneumoniae

<400> 665

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 Trp Arg His Thr Ser Leu Trp His Ser Val Glu Lys Ala Ile His Thr  
 35 40 45  
 Val Cys Met Leu Tyr Gly Phe Cys Glu Ile Arg Thr Pro Ile Phe Glu  
 50 55 60  
 Lys Ser Glu Val Phe Leu His Val Gly Glu Glu Ser Asp Val Val Lys  
 65 70 75 80  
 Lys Glu Val Tyr Ser Phe Leu Asp Arg Lys Gly Arg Ser Met Thr Leu  
 85 90 95  
 Arg Pro Glu Gly Thr Ala Ala Val Val Arg Ser Phe Leu Glu His Gly  
 100 105 110  
 Ala Ser His Arg Ser Asp Asn Lys Phe Tyr Tyr Ile Leu Pro Met Phe  
 115 120 125  
 Arg Tyr Glu Arg Gln Gln Ala Gly Arg Tyr Arg Gln His His Gln Phe  
 130 135 140  
 Gly Val Glu Ala Ile Gly Val Arg His Pro Leu Arg Asp Ala Glu Val  
 145 150 155 160  
 Leu Ala Leu Leu Trp Asp Phe Tyr Ser Arg Val Gly Leu Gln His Met  
 165 170 175  
 Gln Ile Gln Leu Asn Phe Leu Gly Gly Ser Glu Thr Arg Phe Arg Tyr  
 180 185 190  
 Asp Lys Val Leu Arg Ala Tyr Leu Lys Glu Ser Met Gly Glu Leu Ser  
 195 200 205  
 Ala Leu Ser Gln Gln Arg Phe Ser Thr Asn Val Leu Arg Ile Leu Asp  
 210 215 220  
 Ser Lys Glu Pro Glu Asp Gln Glu Ile Ile Arg Gln Ala Pro Pro Ile  
 225 230 235 240  
 Leu Asp Tyr Val Ser Asp Glu Asp Leu Lys Tyr Phe Asn Glu Ile Leu  
 245 250 255  
 Asp Ala Leu Arg Val Leu Glu Ile Pro Tyr Ala Ile Asn Pro Arg Leu  
 260 265 270  
 Val Arg Gly Leu Asp Tyr Tyr Ser Asp Leu Val Phe Glu Ala Thr Thr  
 275 280 285  
 Thr Phe Gln Glu Val Ser Tyr Ala Leu Gly Gly Gly Gly Arg Tyr Asp  
 290 295 300  
 Gly Leu Ile Ser Ala Phe Gly Gly Ala Ser Leu Pro Ala Cys Gly Phe  
 305 310 315 320  
 Gly Val Gly Leu Glu Arg Ala Ile Gln Thr Leu Leu Ala Gln Lys Arg  
 325 330 335  
 Ile Glu Pro Gln Phe Pro His Lys Leu Arg Leu Ile Pro Met Glu Pro  
 340 345 350  
 Asp Ala Asp Gln Phe Cys Leu Glu Trp Ser Gln His Leu Arg Arg Leu  
 355 360 365  
 Gly Ile Pro Thr Glu Val Asp Trp Ser His Lys Lys Val Lys Gly Ala  
 370 375 380

Leu Lys Ala Ala Ser Thr Glu Gln Val Ser Phe Val Cys Leu Ile Gly  
 385 390 395 400  
 Glu Arg Glu Leu Ile Ser Gln Gln Leu Val Ile Lys Asn Met Ser Leu  
 405 410 415  
 Arg Lys Glu Phe Phe Gly Thr Lys Glu Glu Val Glu Gln Arg Leu Leu  
 420 425 430  
 Tyr Glu Ile Gln Asn Thr Pro Leu  
 435 440

<210> 666  
 <211> 73  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 666  
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 Phe Leu Val Pro Ile Lys Gly Asn Thr Asn Lys Glu His Asp Ala His  
 20 25 30  
 Ala Thr Val Leu Lys Ala Ala Arg Ala Lys Tyr Asn Leu Phe Phe Val  
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 Gln Asp Val Phe Pro Val His Glu Val Ile Glu Pro Ile Ser Pro Asp  
 50 55 60  
 Cys Leu Val His Tyr Glu Gly Trp Val  
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<210> 667  
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 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 667  
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 Ile Arg Ile Phe Tyr Ser Met Phe Ile Gly Tyr Ile Phe Tyr Tyr Phe  
 35 40 45  
 Thr Arg Lys Ser Phe Thr Phe Ala Met Pro Thr Leu Ile Ala Asp Leu  
 50 55 60  
 Gly Phe Asp Lys Ala Gln Leu Gly Ile Ile Gly Ser Thr Leu Tyr Phe  
 65 70 75 80  
 Ser Tyr Gly Ile Ser Lys Phe Val Ser Gly Val Met Ser Asp Gln Ser  
 85 90 95  
 Asn Pro Arg Tyr Phe Met Ala Ile Gly Leu Met Ile Thr Gly Leu Thr  
 100 105 110  
 Asn Ile Phe Phe Gly Met Ser Ser Ser Ile Val Leu Phe Ala Leu Trp  
 115 120 125  
 Trp Gly Leu Asn Gly Trp Phe Gln Gly Trp Gly Trp Pro Pro Cys Ala  
 130 135 140  
 Arg Leu Leu Thr His Trp Tyr Ala Lys Ser Glu Arg Gly Thr Trp Trp  
 145 150 155 160  
 Ser Val Trp Ser Thr Ser His Asn Ile Gly Gly Ala Leu Ile Pro Ile  
 165 170 175  
 Leu Thr Gly Phe Ile Ile Asp Tyr Ser Gly Trp Arg Gly Ala Met Tyr  
 180 185 190  
 Val Pro Gly Ile Leu Cys Ile Gly Met Gly Leu Val Leu Ile Asn Arg  
 195 200 205  
 Leu Arg Asp Thr Pro Gln Ser Leu Gly Leu Pro Pro Ile Glu Lys Tyr  
 210 215 220

Lys	Arg	Asp	Pro	His	His	Ala	His	His	Glu	Gly	Lys	Ser	Ala	Ser	Glu
225					230					235					240
Gly	Thr	Glu	Glu	Ile	Glu	Arg	Glu	Leu	Ser	Thr	Arg	Glu	Ile	Leu	Phe
				245					250					255	
Thr	Tyr	Val	Leu	Thr	Asn	Gln	Trp	Leu	Trp	Phe	Leu	Ala	Ala	Ala	Ser
		260						265					270		
Phe	Phe	Ile	Tyr	Ile	Val	Arg	Met	Ala	Val	Asn	Asp	Trp	Ser	Ala	Leu
		275					280				285				
Phe	Leu	Ile	Glu	Thr	Lys	His	Tyr	Ala	Ala	Val	Lys	Ala	Asn	Phe	Cys
	290					295					300				
Val	Ser	Leu	Phe	Glu	Ile	Gly	Gly	Leu	Phe	Gly	Met	Leu	Val	Ala	Gly
305					310					315					320
Trp	Leu	Ser	Asp	Lys	Ile	Ser	Lys	Gly	Asn	Arg	Gly	Pro	Met	Asn	Val
			325					330						335	
Leu	Phe	Ser	Leu	Gly	Leu	Leu	Phe	Ala	Ile	Leu	Gly	Met	Trp	Phe	Ser
		340						345					350		
Arg	Ser	His	Asn	Gln	Trp	Trp	Val	Asp	Gly	Thr	Leu	Leu	Phe	Val	Ile
		355					360					365			
Gly	Phe	Phe	Leu	Tyr	Gly	Pro	Gln	Met	Met	Ile	Gly	Leu	Ala	Ala	Ala
	370					375					380				
Glu	Leu	Ser	His	Lys	Lys	Ala	Ala	Gly	Thr	Ala	Ser	Gly	Phe	Thr	Gly
385					390					395					400
Trp	Phe	Ala	Tyr	Phe	Gly	Ala	Thr	Phe	Ala	Gly	Tyr	Pro	Leu	Gly	Lys
			405					410						415	
Val	Thr	Asp	Val	Trp	Gly	Trp	Lys	Gly	Phe	Phe	Ile	Ala	Leu	Leu	Ala
		420						425					430		
Cys	Ala	Ser	Ile	Ala	Leu	Leu	Leu	Phe	Leu	Pro	Thr	Trp	Asn	Ala	Thr
		435					440					445			
Glu	Lys	Asn	Thr	Arg	Ser	Lys	Ala								
450						455									

<210> 668  
 <211> 1243  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 668															
Gly	Phe	Phe	Leu	Thr	Trp	Ile	Pro	Leu	His	Cys	His	Ser	Gln	Tyr	Ser
1			5						10					15	
Val	Leu	Asp	Ala	Met	Ser	Ser	Ile	Lys	Asp	Phe	Val	Ala	Lys	Gly	Gln
			20					25					30		
Glu	Phe	Gly	Ile	Pro	Ala	Leu	Ala	Leu	Thr	Asp	His	Gly	Asn	Leu	Tyr
		35				40						45			
Gly	Ala	Val	Asp	Phe	Tyr	Lys	Glu	Cys	Thr	Gln	Lys	Gly	Ile	Gln	Pro
	50					55					60				
Ile	Ile	Gly	Cys	Glu	Cys	Tyr	Ile	Ala	Pro	Gly	Ser	Arg	Phe	Asp	Lys
65				70						75				80	
Lys	Lys	Glu	Lys	Arg	Ser	Arg	Ala	Ala	His	His	Leu	Ile	Leu	Leu	Cys
				85					90					95	
Lys	Asn	Glu	Gln	Gly	Tyr	Arg	Asn	Leu	Cys	Ile	Leu	Thr	Ser	Leu	Ala
			100					105					110		
Phe	Thr	Glu	Gly	Phe	Tyr	Tyr	Phe	Pro	Arg	Ile	Asp	Lys	Asp	Leu	Leu
		115					120					125			
Arg	Gln	Tyr	Ser	Glu	Gly	Leu	Ile	Cys	Leu	Ser	Gly	Cys	Leu	Ser	Ser
		130				135					140				
Ser	Val	Ser	Asp	Ala	Ala	Leu	Lys	Ser	Pro	Glu	Ala	Leu	Leu	Leu	Glu
145				150						155				160	
Leu	Gln	Trp	Phe	Gln	Asp	Leu	Phe	Lys	Asp	Asp	Tyr	Phe	Thr	Glu	Val
			165						170					175	
Gln	Leu	His	Lys	Met	Ser	Glu	Glu	Ser	Ile	Ala	Gly	Phe	Lys	Glu	Glu
			180					185					190		

Trp	Leu	Lys	Gln	Glu	Tyr	Tyr	Ser	Leu	Ile	Glu	Lys	Gln	Ile	Lys	Val	195	200	205
Asn	Thr	Ala	Val	Leu	Glu	Ala	Ser	Lys	Arg	Leu	Gly	Ile	Pro	Thr	Val	210	215	220
Ala	Thr	Asn	Asp	Ile	His	Tyr	Ile	Asn	Ala	Asn	Asp	Trp	Gln	Ala	His	225	230	235
Glu	Ile	Leu	Leu	Asn	Val	Gln	Ser	Gly	Glu	Thr	Val	Arg	Ile	Ala	Lys	245	250	255
Gln	Asn	Thr	His	Ile	Pro	Asn	Pro	Lys	Arg	Lys	Val	Tyr	Arg	Ser	Arg	260	265	270
Glu	Tyr	Tyr	Phe	Lys	Ser	Pro	Ala	Gln	Met	Ala	Glu	Leu	Phe	Lys	Asp	275	280	285
Ile	Pro	Glu	Val	Ile	Ser	Asn	Thr	Leu	Glu	Val	Ala	Lys	Arg	Cys	Asp	290	295	300
Phe	Thr	Phe	Asp	Phe	Ser	Lys	Lys	His	Tyr	Pro	Ile	Tyr	Val	Pro	Glu	305	310	315
Ser	Leu	Lys	Thr	Leu	Asn	Ser	Tyr	Thr	Glu	Glu	Asp	Arg	Tyr	Gln	Ala	325	330	335
Ser	Ala	Val	Phe	Leu	Lys	Gln	Leu	Ala	Glu	Glu	Ala	Leu	Pro	Lys	Lys	340	345	350
Tyr	Ser	Ser	Glu	Val	Leu	Ala	His	Ile	Ala	Lys	Lys	Phe	Pro	His	Arg	355	360	365
Asp	Pro	Ile	Asp	Ile	Val	Lys	Glu	Arg	Met	Asp	Met	Glu	Met	Ala	Ile	370	375	380
Ile	Ile	Pro	Lys	Gly	Met	Cys	Asp	Tyr	Leu	Leu	Ile	Val	Trp	Asp	Ile	385	390	395
Ile	His	Trp	Ala	Lys	Ala	Asn	Gly	Ile	Pro	Val	Gly	Pro	Gly	Arg	Gly	405	410	415
Ser	Gly	Ala	Gly	Ser	Val	Leu	Leu	Phe	Leu	Leu	Gly	Ile	Thr	Glu	Ile	420	425	430
Glu	Pro	Ile	Arg	Phe	Asp	Leu	Phe	Phe	Glu	Arg	Phe	Ile	Asn	Pro	Glu	435	440	445
Arg	Leu	Ser	Tyr	Pro	Asp	Ile	Asp	Ile	Asp	Ile	Cys	Met	Ala	Gly	Arg	450	455	460
Glu	Arg	Val	Ile	Asn	Tyr	Ala	Ile	Glu	Arg	His	Gly	Lys	Asp	Asn	Val	465	470	475
Ala	Gln	Ile	Ile	Thr	Phe	Gly	Thr	Met	Lys	Ala	Lys	Met	Ala	Val	Lys	485	490	495
Asp	Val	Gly	Arg	Thr	Leu	Asp	Met	Ala	Leu	Ser	Lys	Val	Asn	His	Ile	500	505	510
Ala	Lys	His	Ile	Pro	Asp	Leu	Asn	Thr	Thr	Leu	Ser	Lys	Ala	Leu	Glu	515	520	525
Thr	Asp	Pro	Asp	Leu	His	Gln	Leu	Tyr	Ile	Asn	Asp	Ala	Glu	Ser	Ala	530	535	540
Gln	Val	Ile	Asp	Met	Ala	Leu	Cys	Leu	Glu	Gly	Ser	Ile	Arg	Asn	Thr	545	550	555
Gly	Val	His	Ala	Ala	Gly	Val	Ile	Ile	Cys	Gly	Asp	Gln	Leu	Thr	Asn	565	570	575
His	Ile	Pro	Ile	Cys	Ile	Ser	Lys	Asp	Ser	Thr	Met	Ile	Thr	Thr	Gln	580	585	590
Tyr	Ser	Met	Lys	Pro	Val	Glu	Ser	Val	Gly	Met	Leu	Lys	Val	Asp	Leu	595	600	605
Leu	Gly	Leu	Lys	Thr	Leu	Thr	Ser	Ile	Asn	Ile	Ala	Met	Ser	Ala	Ile	610	615	620
Glu	Lys	Lys	Thr	Gly	Gln	Ser	Leu	Ala	Met	Ala	Thr	Leu	Pro	Leu	Asp	625	630	635
Asp	Ala	Thr	Thr	Phe	Ser	Leu	Leu	His	Gln	Gly	Lys	Thr	Met	Gly	Ile	645	650	655
Phe	Gln	Met	Glu	Ser	Lys	Gly	Met	Gln	Glu	Leu	Ala	Lys	Asn	Leu	Arg	660	665	670

Pro	Asp	Leu	Phe	Glu	Glu	Ile	Ile	Ala	Met	Gly	Ala	Leu	Tyr	Arg	Pro
		675					680					685			
Gly	Pro	Met	Asp	Met	Ile	Pro	Ser	Phe	Ile	Asn	Arg	Lys	His	Gly	Lys
	690					695				700					
Glu	Ile	Ile	Glu	Tyr	Asp	His	Pro	Leu	Met	Glu	Ser	Ile	Leu	Lys	Glu
705					710					715					720
Thr	Tyr	Gly	Ile	Met	Val	Tyr	Gln	Glu	Gln	Val	Met	Gln	Ile	Ala	Gly
				725					730					735	
Ala	Leu	Ala	Ser	Tyr	Ser	Leu	Gly	Glu	Gly	Asp	Val	Leu	Arg	Arg	Ala
			740					745					750		
Met	Gly	Lys	Lys	Asp	Phe	Gln	Gln	Met	Glu	Gln	Glu	Arg	Glu	Lys	Phe
		755					760					765			
Cys	Lys	Arg	Ala	Cys	Asn	Asn	Gly	Ile	Asp	Pro	Glu	Leu	Ala	Thr	Val
	770					775					780				
Ile	Phe	Asp	Lys	Met	Glu	Lys	Phe	Ala	Ala	Tyr	Gly	Phe	Asn	Lys	Ser
785					790					795					800
His	Ala	Ala	Ala	Tyr	Gly	Leu	Ile	Thr	Tyr	Thr	Thr	Ala	Tyr	Leu	Lys
				805					810					815	
Ala	Asn	Tyr	Pro	Lys	Glu	Trp	Leu	Ala	Ala	Leu	Leu	Thr	Cys	Asp	Ser
			820					825					830		
Asp	Asp	Ile	Glu	Lys	Ile	Gly	Lys	Leu	Ile	Arg	Glu	Ala	Gln	Ser	Met
		835					840					845			
Gly	Ile	Pro	Ile	Leu	Pro	Pro	His	Ile	Asn	Val	Ser	Ser	Asn	His	Phe
	850					855					860				
Val	Ala	Thr	Asp	Glu	Gly	Ile	Arg	Phe	Ala	Met	Gly	Ala	Ile	Lys	Gly
865					870					875					880
Ile	Gly	Arg	Gly	Leu	Ile	Glu	Ser	Ile	Val	Glu	Glu	Arg	Asp	His	His
				885					890					895	
Gly	Pro	Tyr	Glu	Ser	Ile	Arg	Asp	Phe	Ile	Gln	Arg	Ser	Asp	Leu	Lys
			900					905					910		
Lys	Val	Ser	Lys	Lys	Ser	Ile	Glu	Ser	Leu	Ile	Asp	Ala	Gly	Cys	Phe
		915					920					925			
Asp	Cys	Phe	Asp	Ser	Asn	Arg	Asp	Leu	Leu	Leu	Ala	Ser	Val	Glu	Pro
	930					935					940				
Leu	Tyr	Glu	Ala	Ile	Ala	Lys	Asp	Lys	Lys	Glu	Ala	Ala	Ser	Gly	Val
945					950					955					960
Met	Thr	Phe	Phe	Thr	Leu	Gly	Ala	Met	Asp	Arg	Lys	Asn	Glu	Val	Pro
				965					970					975	
Ile	Cys	Leu	Pro	Lys	Asp	Ile	Pro	Thr	Arg	Ser	Lys	Lys	Glu	Leu	Leu
			980					985					990		
Lys	Lys	Glu	Lys	Glu	Leu	Leu	Gly	Ile	Tyr	Leu	Thr	Glu	His	Pro	Met
		995					1000					1005			
Asp	Thr	Val	Arg	Asp											

Gly Asn Lys Pro Asn Glu Asn Gly His Thr Gln Ala Leu Ala Pro Val  
 1155 1160 1165  
 Thr Leu Ser Leu Asp Leu Asn Glu Leu Arg His Ser His Leu Cys Ile  
 1170 1175 1180  
 Leu Lys Lys Ile Val Gln Lys His Pro Gly Ser Arg Thr Leu Val Leu  
 1185 1190 1195 1200  
 Val Phe Thr Gln Asp Asn Glu Arg Val Ala Ser Met Ser Pro Asp Asp  
 1205 1210 1215  
 Ala Tyr Phe Val Cys Glu Asp Ile Glu Glu Leu Arg Gln Glu Leu Val  
 1220 1225 1230  
 Thr Ala Asp Leu Pro Val Arg Val Ile Thr Val  
 1235 1240

<210> 669

<211> 307

<212> PRT

<213> Chlamydia pneumoniae

<400> 669

Asn Ile Ser Leu Leu Cys Lys Ile Gln Lys Arg Tyr Phe Met Lys Lys  
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 20 25 30  
 Phe Leu Trp Asp Arg Val Pro Cys Ala Gln Lys Ile Met Arg Leu Ala  
 35 40 45  
 Ala Asp His Ser Ser Glu Val Phe Ser Lys Ser Cys Arg Phe Val Arg  
 50 55 60  
 Lys Ile Ser Gly Phe Glu Glu Leu Gln Val Phe Glu Arg His Val Ser  
 65 70 75 80  
 Pro Glu Gln Ala Leu Ala Leu Phe Pro Glu Tyr Arg Asp Gly Lys Ser  
 85 90 95  
 Phe Val Glu Leu Ala Phe Ile Pro His Thr Leu Met His Val Arg Phe  
 100 105 110  
 Ser Lys Glu Glu Pro Val Lys Lys His Ile Ile Ser Gln Glu Gly Glu  
 115 120 125  
 Ile Leu Trp Ser Leu Val Asn Gly Glu Met Val Leu His Thr Gly Thr  
 130 135 140  
 Trp Thr Cys Ser Lys Gly Phe Arg Glu Cys Leu Leu Leu His Ala Gly  
 145 150 155 160  
 Lys Gln Asp Met Arg Val Ile Gln Thr Leu Ala Thr Leu Gly Gly Thr  
 165 170 175  
 Thr Ser Arg Glu Ser Leu Ala Gln Ala Leu Ala Leu Lys Asn Ile Arg  
 180 185 190  
 Ala Glu Arg Val Ile Lys Glu Cys Gln Lys Lys Lys Leu Ile Phe Ala  
 195 200 205  
 Ser Gly Asn Gln Ile Gly Thr His Phe Gln Gln Phe Gln Pro Ile Arg  
 210 215 220  
 Gly Cys Thr Thr Thr Leu Asn Asn Asn Pro Val Trp Leu Gln Lys Pro  
 225 230 235 240  
 Arg His Ala Ala Val Phe Pro Ala Gln Tyr Ser Glu Asp Arg Val Arg  
 245 250 255  
 His Leu Val Lys Met Ile Phe Gly Asp Asn Phe Leu Ile Val Arg Ser  
 260 265 270  
 Ser Met Val Tyr Val Pro Val Tyr Lys Ile Ser Leu Val Ser Ala Asp  
 275 280 285  
 Asn Ser Val Arg Val Glu Tyr Ile Asn Ala Val Thr Gly Lys Ser Phe  
 290 295 300  
 Gln Asp Leu  
 305

<210> 670  
 <211> 329  
 <212> PRT  
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 Trp Arg Phe Val Val Val Ser Pro Arg Leu Ile Met Lys Phe Leu Leu  
 1 5 10 15  
 Tyr Val Pro Leu Leu Leu Val Leu Val Ser Thr Gly Cys Asp Ala Lys  
 20 25 30  
 Pro Val Ser Phe Glu Pro Phe Ser Gly Lys Leu Ser Thr Gln Arg Phe  
 35 40 45  
 Glu Pro Gln His Ser Ala Glu Tyr Phe Ser Gln Gly Gln Glu Phe  
 50 55 60  
 Leu Lys Lys Gly Asn Phe Arg Lys Ala Leu Leu Cys Phe Gly Ile Ile  
 65 70 75 80  
 Thr His His Phe Pro Arg Asp Ile Leu Arg Asn Gln Ala Gln Tyr Leu  
 85 90 95  
 Ile Gly Val Cys Tyr Phe Thr Gln Asp His Pro Asp Leu Ala Asp Lys  
 100 105 110  
 Ala Phe Ala Ser Tyr Leu Gln Leu Pro Asp Ala Glu Tyr Ser Glu Glu  
 115 120 125  
 Leu Phe Gln Met Lys Tyr Ala Ile Ala Gln Arg Phe Ala Gln Gly Lys  
 130 135 140  
 Arg Lys Arg Ile Cys Arg Leu Glu Gly Phe Pro Lys Leu Met Asn Ala  
 145 150 155 160  
 Asp Glu Asp Ala Leu Arg Ile Tyr Asp Glu Ile Leu Thr Ala Phe Pro  
 165 170 175  
 Ser Lys Asp Leu Gly Ala Gln Ala Leu Tyr Ser Lys Ala Ala Leu Leu  
 180 185 190  
 Ile Val Lys Asn Asp Leu Thr Glu Ala Thr Lys Thr Leu Lys Lys Leu  
 195 200 205  
 Thr Leu Gln Phe Pro Leu His Ile Leu Ser Ser Glu Ala Phe Val Arg  
 210 215 220  
 Leu Ser Glu Ile Tyr Leu Gln Gln Ala Lys Lys Glu Pro His Asn Leu  
 225 230 235 240  
 Gln Tyr Leu His Phe Ala Lys Leu Asn Glu Glu Ala Met Lys Lys Gln  
 245 250 255  
 His Pro Asn His Pro Leu Asn Glu Val Val Ser Ala Asn Val Gly Ala  
 260 265 270  
 Met Arg Glu His Tyr Ala Arg Gly Leu Tyr Ala Thr Gly Arg Phe Tyr  
 275 280 285  
 Glu Lys Lys Lys Lys Ala Glu Ala Ala Asn Ile Tyr Tyr Arg Thr Ala  
 290 295 300  
 Ile Thr Asn Tyr Pro Asp Thr Leu Leu Val Ala Lys Cys Gln Lys Arg  
 305 310 315 320  
 Leu Asp Arg Ile Ser Lys His Thr Ser  
 325

<210> 671  
 <211> 212  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 671  
 Ile Glu Tyr Leu Ser Ile Leu Pro Lys Ile Glu Ile Asn Met Arg Leu  
 1 5 10 15  
 Phe Ser Leu Gly Thr Ile Tyr Leu Phe Phe Ser Leu Ala Leu Ser Ser  
 20 25 30  
 Cys Cys Gly Tyr Ser Ile Leu Asn Ser Pro Tyr His Leu Ser Ser Leu  
 35 40 45



Gly	Lys	Ser	Leu	Leu	Gln	Glu	Arg	Ile	Phe	Ile	Ala	Pro	Ile	Lys	Glu
50						55					60				
Asp	Pro	His	Gly	Gln	Leu	Cys	Ser	Ala	Leu	Thr	Tyr	Glu	Leu	Ser	Lys
65					70					75					80
Arg	Ser	Phe	Ala	Ile	Ser	Gly	Arg	Ser	Ser	Cys	Ala	Gly	Tyr	Thr	Leu
				85					90					95	
Lys	Val	Glu	Leu	Leu	Asn	Gly	Ile	Asp	Lys	Asn	Ile	Gly	Phe	Thr	Tyr
			100					105					110		
Ala	Pro	Asn	Lys	Leu	Gly	Asp	Lys	Thr	His	Arg	His	Phe	Ile	Val	Ser
		115					120					125			
Asn	Glu	Gly	Arg	Leu	Ser	Leu	Ser	Ala	Lys	Val	Gln	Leu	Ile	Asn	Asn
		130				135					140				
Asp	Thr	Gln	Glu	Val	Leu	Ile	Asp	Gln	Cys	Val	Ala	Arg	Glu	Ser	Val
145					150				155						160
Asp	Phe	Asp	Phe	Glu	Pro	Asp	Leu	Gly	Thr	Ala	Asn	Ala	His	Glu	Phe
				165					170					175	
Ala	Leu	Gly	Gln	Phe	Glu	Met	His	Ser	Glu	Ala	Ile	Lys	Ser	Ala	Arg
			180					185					190		
Arg	Ile	Leu	Ser	Ile	Arg	Leu	Ala	Glu	Thr	Ile	Ala	Gln	Gln	Val	Tyr
		195				200						205			
Tyr	Asp	Leu	Phe												
		210													

<210> 672  
 <211> 153  
 <212> PRT  
 <213> Chlamydia pneumoniae

Pro	Arg	Arg	Leu	Leu	Asn	Arg	Tyr	Thr	Met	Thr	Phe	Phe	Glu	Gly	Glu
1				5					10					15	
Thr	Val	Phe	Pro	Ala	Val	Leu	Ser	Glu	Leu	His	Ser	Met	Leu	Asp	Leu
			20					25					30		
Ile	Lys	Arg	Ala	Gly	Lys	Gln	Ser	Lys	Cys	Pro	Gln	Glu	Lys	Leu	Leu
		35				40					45				
Lys	Leu	Glu	Leu	Ala	Cys	Glu	Glu	Leu	Leu	Val	Asn	Ile	Ile	Ser	Tyr
	50					55					60				
Ala	Tyr	Gln	Gly	Glu	Asn	Ser	Pro	Gly	Thr	Ile	Ala	Ile	Ser	Cys	Ile
65					70				75						80
Ser	His	Arg	Gly	Asp	Leu	Glu	Val	Val	Ile	Lys	Asp	His	Gly	Pro	Ser
			85					90					95		
Phe	Asn	Pro	Leu	Ala	Val	Ser	Ile	Asn	Ile	Gln	Glu	Asp	Leu	Pro	Leu
		100						105					110		
Glu	Gln	Arg	Lys	Leu	Gly	Gly	Leu	Gly	Ile	Phe	Leu	Ala	Lys	Ser	Ser
		115					120					125			
Val	Asp	Glu	Phe	Leu	Tyr	Ala	Arg	Glu	Asp	His	Cys	Asn	Ile	Val	His
	130					135					140				
Leu	Lys	Met	Leu	Asn	Gly	Gln	His	Ser							
145					150										

<210> 673  
 <211> 152  
 <212> PRT  
 <213> Chlamydia pneumoniae

Arg	Ile	Thr	Ile	Asn	Gln	Arg	Lys	Tyr	Thr	Met	Ser	Leu	Asp	Phe	Phe
1				5					10					15	
Glu	Glu	Phe	Tyr	His	Gln	Ser	Ile	Leu	Asn	Thr	Gly	Thr	Ser	Phe	Pro
			20					25					30		

Glu	Gly	Tyr	Leu	Asn	Ile	Ala	Glu	Ile	Leu	Ser	Tyr	Pro	His	Cys	Thr
	35						40					45			
Asp	Ala	Asn	Thr	Asp	Phe	Leu	Cys	Ser	Gln	Ser	Asp	Asn	Asp	Phe	Ile
	50					55					60				
Ile	Ala	Glu	Ser	Lys	Asp	Lys	Leu	Thr	Leu	Phe	Asn	Ala	Asp	Phe	Ala
65					70					75					80
Ile	Trp	Leu	Val	Pro	Glu	Leu	Val	Gln	Gly	Gln	Ala	Val	Thr	Arg	Gly
				85					90					95	
Tyr	Ile	Ala	Val	Ser	Gln	Gly	Glu	Gly	Asn	Tyr	Glu	Pro	Glu	Met	Ala
			100					105					110		
Phe	Glu	Ala	Ser	Gly	Gln	Tyr	Asn	Gln	Ser	Ser	Leu	Ile	Leu	Glu	Ala
		115					120					125			
Leu	Gln	Leu	Tyr	Leu	Lys	Asp	Ile	Lys	Asp	Thr	Glu	Asn	Ala	Leu	Arg
	130					135					140				
Ser	Phe	Arg	Phe	Asn	Asn	Asp	His								
145						150									

<210> 674

<211> 442

<212> PRT

<213> Chlamydia pneumoniae

<400> 674

Thr	Ile	Lys	Ser	Pro	His	Met	Lys	Arg	Pro	Phe	Phe	Thr	Tyr	Leu	Cys
1				5					10					15	
Ile	Ile	Phe	Tyr	Gly	Ser	Cys	Ala	Ser	Leu	Ser	Leu	His	Ala	Gly	Leu
		20						25					30		
Ser	Phe	Pro	Glu	Val	Arg	Gly	Ala	Thr	Ala	Ala	Val	Val	His	Ala	Asp
		35					40					45			
Ser	Gly	Lys	Val	Phe	Tyr	Asp	Lys	Asp	Ile	Asp	Ala	Val	Ile	Tyr	Pro
	50					55					60				
Ala	Ser	Met	Thr	Lys	Ile	Ala	Thr	Ala	Leu	Phe	Ile	Leu	Lys	His	Tyr
65					70					75					80
Pro	Thr	Val	Leu	Asp	Thr	Leu	Ile	Lys	Val	Lys	Gln	Asp	Ala	Ile	Ala
				85					90					95	
Ser	Ile	Thr	Pro	Gln	Ala	Lys	Lys	Gln	Ser	Gly	Tyr	Arg	Ser	Pro	Pro
			100					105					110		
His	Trp	Leu	Glu	Thr	Asp	Gly	Ser	Thr	Ile	Gln	Leu	His	Leu	Arg	Glu
		115					120					125			
Glu	Leu	Leu	Gly	Trp	Asp	Leu	Phe	His	Ala	Leu	Leu	Val	Cys	Ser	Ala
	130					135					140				
Asn	Asp	Ala	Ala	Asn	Val	Leu	Ala	Met	Ala	Cys	Cys	Gly	Ser	Val	Glu
145					150					155					160
Lys	Phe	Met	Asp	Lys	Leu	Asn	Phe	Phe	Leu	Lys	Glu	Glu	Ile	Gly	Cys
			165					170						175	
Thr	His	Thr	His	Phe	Asn	Asn	Pro	His	Gly	Leu	His	His	Pro	Asn	His
			180					185					190		
Tyr	Thr	Thr	Thr	Arg	Asp	Leu	Ile	Ser	Ile	Met	Arg	Cys	Ala	Leu	Lys
		195					200					205			
Glu	Pro	Pro	Phe	Arg	Gly	Val	Ile	Ser	Thr	Thr	Ser	Tyr	Lys	Ile	Gly
	210					215					220				
Ala	Thr	Asn	Leu	His	Gly	Glu	Arg	Ile	Leu	Ser	Pro	Thr	Asn	Lys	Leu
225					230					235					240
Leu	Leu	Pro	Gly	Ser	Thr	Tyr	His	Tyr	Pro	Pro	Ala	Leu	Gly	Gly	Lys
				245					250					255	
Thr	Gly	Thr	Thr	Lys	Thr	Ala	Gly	Lys	Asn	Leu	Ile	Met	Ala	Ala	Glu
			260					265					270		
Lys	Asn	Asn	Arg	Leu	Leu	Val	Thr	Ile	Ala	Thr	Gly	Tyr	Ser	Gly	Pro
		275					280					285			
Val	Ser	Asp	Leu	Tyr	Gln	Asp	Val	Ile	Ala	Leu	Cys	Glu	Thr	Val	Phe
	290					295					300				

Asn Glu Pro Leu Leu Arg Lys Glu Leu Val Pro Pro Ser Asp Cys Leu  
 305 310 315 320  
 Gln Leu Glu Ile Ala Asn Leu Gly Lys Leu Ser Cys Pro Leu Pro Glu  
 325 330 335  
 Gly Leu Tyr Tyr Asp Phe Tyr Ala Ser Glu Asp Arg Glu Pro Leu Ser  
 340 345 350  
 Val Ser Phe Ile Ala His Ala Asp Ala Phe Pro Ile Glu Gln Gly Asp  
 355 360 365  
 Leu Leu Gly His Trp Val Phe Tyr Asp Asp Glu Gly Lys Lys Ile Ser  
 370 375 380  
 Ser Gln Pro Phe Tyr Ala Pro Cys Arg Phe Glu Arg Thr Ile Lys Pro  
 385 390 395 400  
 Trp Lys Leu Tyr Met Lys Arg Val Phe Thr Ser Tyr Arg Thr Tyr Met  
 405 410 415  
 Ser Ile Thr Met Leu Leu Met Tyr Phe Arg Ile Arg Lys His Arg Lys  
 420 425 430  
 Tyr Lys Asn Leu Lys His Tyr Ser Lys Ile  
 435 440

<210> 675

<211> 74

<212> PRT

<213> Chlamydia pneumoniae

<400> 675

Gly Lys Ser Thr Glu Gly Lys Ala Tyr His Cys Phe Leu Lys Gln Val  
 1 5 10 15  
 Ser Ile Ala Leu Asn Arg Glu Glu Val Trp Asp Asn Pro His His Leu  
 20 25 30  
 Met Phe Ile Leu Met Gln Phe Gln Gln Phe Ser Gly Glu Gln Asp Arg  
 35 40 45  
 Phe Gly Ser Phe Leu Glu Ala Thr Ile Arg Asp Arg Val Ser Phe Leu  
 50 55 60  
 Val Leu Gln Glu Lys Ile Ala Thr Leu Lys  
 65 70

<210> 676

<211> 371

<212> PRT

<213> Chlamydia pneumoniae

<400> 676

Arg Gly Ile Leu Tyr Val Thr Met Val Pro Phe Arg Gln His His Ala  
 1 5 10 15  
 Tyr Gln Leu Leu Lys Gln Leu His Thr Ser Ala Ile Ser Glu Ala Asp  
 20 25 30  
 Arg Val Ser Tyr Tyr Phe Lys Gln Asn Arg Ser Leu Gly Ser Lys Asp  
 35 40 45  
 Arg Gln Trp Ile Gln Asn Ile Ile Phe Asn Ile Leu Arg His Arg Arg  
 50 55 60  
 Leu Leu Glu Thr Leu Ile Leu Asp Ser Gly Glu Gln Val Thr Pro Glu  
 65 70 75 80  
 Ala Leu Val Ala Lys Val Asn Glu Gly Val Leu Glu Asn Leu Asp Ser  
 85 90 95  
 Tyr Ser Ala Ile Pro Trp Pro Val Arg Tyr Ser Ile Ser Asp Asp Leu  
 100 105 110  
 Ala His Phe Leu Val Gln Asp Tyr Gly Glu Glu Gln Ala Glu Glu Ile  
 115 120 125  
 Ala Lys Ile Trp Leu Thr Glu Ala Pro Ile Thr Ile Arg Val Asn Thr  
 130 135 140

Asp	Lys	Ile	Ser	Val	Lys	Glu	Leu	Gln	Glu	Lys	Leu	Glu	Tyr	Pro	Ser
145					150					155					160
Ser	Pro	Gly	Glu	Leu	Pro	Glu	Ala	Leu	His	Phe	Ser	Lys	Arg	His	Pro
				165					170						175
Leu	Gln	Ser	Thr	Glu	Ala	Phe	Arg	Arg	Gly	Phe	Phe	Glu	Ile	Gln	Asp
			180					185						190	
Glu	Asn	Ser	Gln	Arg	Ile	Ser	Gln	Gly	Ile	Ser	Leu	Thr	Asp	Lys	Asp
		195					200					205			
Ile	Val	Leu	Asp	Phe	Cys	Ala	Gly	Ala	Gly	Gly	Lys	Ser	Leu	Ile	Phe
	210					215					220				
Ala	Gln	Lys	Ala	Lys	His	Val	Val	Ile	Asn	Asp	Ser	Arg	Lys	Ala	Ile
225					230					235					240
Leu	Gln	Thr	Ala	Lys	His	Arg	Leu	Leu	Arg	Ala	Gly	Ala	Arg	Asn	Phe
				245					250					255	
Ser	Leu	Ala	Asp	Gln	Leu	Arg	Leu	Gly	Ser	Phe	Ser	Val	Val	Ile	Val
			260					265					270		
Asp	Ala	Pro	Cys	Ser	Gly	Thr	Gly	Val	Phe	Arg	Arg	His	Pro	Glu	His
		275					280					285			
Lys	Trp	Gln	Phe	Ser	Lys	Lys	Leu	Leu	Leu	Asn	Tyr	Val	Arg	Val	Gln
	290					295					300				
Lys	Ser	Ile	Leu	Lys	Gln	Ala	Ser	Ala	Tyr	Val	Gly	Pro	Arg	Gly	Arg
305					310					315					320
Leu	Val	Tyr	Ile	Thr	Cys	Ser	Leu	Leu	Lys	Glu	Glu	Asn	Glu	Ala	His
				325					330					335	
Val	Ala	Tyr	Met	His	Ser	Leu	Gly	Trp	Lys	Glu	Val	His	Arg	Lys	Thr
			340					345					350		
Leu	Pro	Leu	Gln	Val	Gly	Lys	Gly	Asp	Ala	Phe	Phe	Thr	Ser	His	Phe
		355					360						365		
Gln	Lys	Ile													
	370														

<210> 677

<211> 388

<212> PRT

<213> Chlamydia pneumoniae

<400> 677

Val	Pro	Leu	Ser	Met	Ile	Leu	Asp	Phe	Gln	Phe	Ser	Ile	Gly	Tyr	Tyr
1				5					10					15	
Leu	Arg	Val	Leu	Glu	Leu	Ala	Ile	Arg	Asp	Gly	Thr	Arg	Ile	Leu	Ala
			20					25					30		
Tyr	Asp	Arg	Lys	Arg	Leu	Leu	Leu	Asp	Ala	Trp	Pro	Val	Asn	Asp	Pro
		35					40					45			
Leu	Pro	Thr	Asn	Tyr	Asp	Thr	Ser	Val	Ser	Thr	Ile	Arg	Gln	Val	Ile
	50					55					60				
His	Glu	Leu	Phe	Ser	Trp	Ser	Ala	Ile	Ser	Tyr	Ser	Ile	Ser	Ser	Arg
65					70					75					80
Leu	Leu	Ala	Ile	Ile	Glu	Leu	Arg	Leu	His	Glu	Glu	Lys	Pro	Gln	Thr
				85					90					95	
Gly	Trp	Leu	Tyr	Arg	Leu	Phe	Phe	Pro	Ser	Lys	Tyr	His	Ile	Lys	Lys
			100					105					110		
Ala	Ile	Val	Asp	Lys	Leu	Cys	Met	Phe	Lys	Ser	Leu	Ile	Leu	Phe	Glu
		115					120						125		
Ser	Lys	Arg	Pro	Val	Asp	Lys	Ile	Val	Gln	Ala	Ala	Asn	Lys	Val	Phe
	130					135					140				
Ser	Lys	Gly	Lys	Ser	Asn	Phe	Ser	Ser	Trp	Glu	Asp	Phe	Thr	His	Glu
145					150					155					160
Val	Thr	Val	Ser	Glu	Val	Gln	Thr	Pro	Leu	Ala	Gly	Glu	Val	Gln	Arg
				165					170					175	
Arg	Leu	Ala	Ala	Asp	Ala	Ser	Leu	Gln	Met	Ile	Ile	Glu	Ala	Leu	Thr
			180					185					190		

Thr Leu Leu Glu Gly His Thr Ala Tyr Leu Pro Leu Ser Leu Glu Leu  
 195 200 205  
 Leu Asn Gln Phe Ile Gly Glu Lys Ala Gln Pro Leu Lys Thr Leu Ser  
 210 215 220  
 Glu Lys Ser Tyr Val Leu Leu Arg Glu Leu Ile Gln Leu Phe Ser Leu  
 225 230 235 240  
 Ser Ala Glu Asp Phe Gln Thr Ile Ile Met Ser Ile Ile Ser Asp Ser  
 245 250 255  
 Leu Ser Glu Val Leu Ala Asn Ser Leu Ile Gly Asn Gln Pro Leu Thr  
 260 265 270  
 Phe His Gly Lys Thr Phe Val Gly Leu Trp Gln Glu Thr Ala Leu Ala  
 275 280 285  
 Ser Pro Glu Asp Ser Lys Leu Ala Leu Gly Phe Leu Ala Glu Val Leu  
 290 295 300  
 Arg Lys Val Ile Val Glu Lys Lys Leu His Val Ser Lys Ser Asp Asn  
 305 310 315 320  
 Thr Thr Pro Glu Glu Val Gly Asn Ile Tyr Ser Ile Arg Asp Gln Asn  
 325 330 335  
 Pro Ala Leu Trp Asp Lys Met Ile Thr Met Leu Leu Met Arg Trp Leu  
 340 345 350  
 Leu Asp Tyr Asp Arg Asp Ile Gly Ile Ala Leu Arg Lys Ala Ala Glu  
 355 360 365  
 Tyr Tyr Asn Pro His Pro Ser Phe Trp Arg Gln Phe Leu Arg Leu Trp  
 370 375 380  
 Gln Arg Arg Pro  
 385

<210> 678  
 <211> 390  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 678  
 Ser Met Gly Thr Pro Ile Ser Gly Asn Asp Gly Asp Arg Asn Thr Ile  
 1 5 10 15  
 Ser Asp Pro Leu Glu Glu Ser Ala Ala Glu Glu Gly Asp Ser Asp Leu  
 20 25 30  
 Glu Asp Arg Val Ser Glu Ser Ala Thr Gln Val Ile Glu Thr Ile Ala  
 35 40 45  
 Asp Thr Gly Ile Pro Glu Ala Thr Pro Ser Glu Gly Thr Asn Ser Asp  
 50 55 60  
 Leu Asn Ser Asp Leu Val Asp Arg Val Glu Tyr Glu Ala Arg Gly Ser  
 65 70 75 80  
 Leu Leu Thr Thr Met Leu Ala Arg Ile Arg Lys Ala Val Ser Gln Ile  
 85 90 95  
 Trp Met His Val Lys Thr Lys Arg His Pro Lys Glu Gln Gly Val Arg  
 100 105 110  
 Ser Leu Gly Asp Ile Pro Cys Asp Leu Leu Lys Ala Thr Arg Leu Pro  
 115 120 125  
 Lys Glu Thr Ala Glu Pro Pro Tyr Phe Tyr Ala Leu Glu Thr Ala Leu  
 130 135 140  
 Ala Ser Cys Arg Ser Phe Phe His Val Phe Leu Arg Leu Phe Thr  
 145 150 155 160  
 Leu Leu Arg Arg Gln His Pro Glu Ala Pro Leu Asp Leu Cys Gly Thr  
 165 170 175  
 Asp Pro Ile Ser Pro Glu Ala Ala Val Ala Phe Ala Leu Ile Leu Arg  
 180 185 190  
 Ser Cys Cys Lys Trp Val Ala Thr Asp Ala Val Gln Glu Gly Leu Pro  
 195 200 205  
 Leu Glu Val Ile Glu Glu Ala Gly Met Tyr Asn Ala Phe Ser Leu Glu  
 210 215 220

Ala	Thr	Thr	Thr	Val	Glu	Glu	Val	Ser	Lys	Arg	Leu	Ser	Glu	Leu	Leu
225					230				235						240
Tyr	Ser	Asp	Lys	Arg	Ile	Asp	Gly	Leu	Ala	Asn	Val	Arg	Gly	Ile	Thr
				245					250					255	
Lys	Ile	Ile	Thr	Ser	Pro	Tyr	Leu	Gly	Ala	Gly	Gln	Cys	Val	Ser	Val
			260					265					270		
Val	Asp	Asn	Leu	Lys	Thr	Tyr	Asp	Leu	Gly	Arg	Asn	Tyr	Thr	Gln	Val
	275						280					285			
Leu	Ala	Cys	Ala	Ser	Gln	Ile	Asp	Glu	Phe	Ala	Asp	Lys	Gly	Glu	Asn
	290					295					300				
Glu	Ala	Leu	Val	Met	Lys	Asp	Ile	Leu	Tyr	Leu	Val	Arg	Gln	Asp	Arg
305					310					315					320
Ser	Lys	Glu	Leu	Gly	Asp	Phe	Leu	Met	Met	Trp	Ser	Glu	Glu	His	Ala
				325					330					335	
Ser	Glu	Val	Asn	Tyr	Asp	Val	Val	Leu	Ala	Ile	Leu	Glu	Val	Asn	Leu
			340					345					350		
Pro	Ile	Leu	Glu	Glu	Asp	Tyr	Arg	Ser	His	Pro	Leu	Ala	Tyr	Gln	Lys
	355						360					365			
Lys	Leu	Asn	Tyr	Val	Ile	Cys	Gln	Phe	Phe	Cys	Ser	Glu	Arg	Leu	Thr
	370					375					380				
Ser	Ile	Glu	Pro	Lys	Asp										
385					390										

<210> 679

<211> 385

<212> PRT

<213> Chlamydia pneumoniae

<400> 679

Arg	Ile	Ala	Met	Gly	Ile	Asn	Pro	Ser	Gly	Asn	Arg	Ser	Pro	Asp	Asp
1				5					10					15	
Val	Trp	Val	Arg	Gly	Ala	Gln	Gly	Asp	Ser	Ser	Ser	Thr	Gln	Gly	Thr
			20					25					30		
Gly	Ala	Thr	Asn	Ser	Asn	Leu	Gly	Ala	His	Asn	Val	Thr	Thr	Ser	Thr
		35				40						45			
Ser	Gln	Pro	Gln	Val	Ala	Ser	Lys	Ala	Lys	Gln	Leu	Trp	Gln	Thr	Val
	50					55					60				
Arg	Glu	Phe	Phe	Leu	Gly	Lys	Lys	Ser	Pro	Asp	Ser	Ser	Gln	Gly	Ala
65				70						75					80
Ser	Gly	Pro	Ala	Met	Gln	Ser	Pro	Ser	Gly	Pro	Thr	Ile	Arg	Pro	Thr
			85						90					95	
Arg	Pro	Ala	Pro	Pro	Pro	Pro	Thr	Thr	Gly	Gly	Ala	Asn	Ala	Lys	Arg
		100						105					110		
Pro	Ala	Thr	His	Gly	Lys	Gly	Arg	Ala	Pro	Gln	Pro	Pro	Thr	Ala	Gly
		115					120					125			
Ser	Ser	Ser	Gly	Ser	Glu	Gln	Pro	Thr	Ala	Met	Ser	Ser	Glu	Val	Ala
	130					135					140				
Lys	Leu	Val	Ser	Glu	Leu	Lys	Asp	Ala	Val	His	Ser	His	Ala	Glu	Ser
145					150					155					160
Gln	Lys	Val	Leu	Lys	Lys	Val	Ser	Gln	Glu	Leu	Gln	Thr	Lys	Trp	Thr
				165					170					175	
Asp	Trp	Glu	Asn	Asn	Arg	Gly	Pro	Asp	Tyr	Leu	Leu	His	Gly	Tyr	Arg
			180					185					190		
Val	Ile	Ala	Arg	Ala	Leu	Gln	Gln	Thr	Tyr	Thr	Glu	Gln	Ser	Met	Leu
		195					200					205			
Ile	Glu	Gly	Thr	Ser	Ser	Thr	Gly	Pro	Val	Pro	Gln	Ala	Val	Thr	Val
	210					215					220				
Ala	Lys	Asp	Ala	Val	Thr	Gln	Thr	Val	Arg	Gly	Ala	Ile	Lys	Asn	Leu
225					230					235					240
Glu	Asn	Pro	Lys	Pro	Gly	Asn	Asp	Pro	Asp	Gly	Val	Leu	Met	Gln	Val
				245					250					255	

Val Ile Ser Leu Gly Ile Glu Gly Pro Thr Leu Asp Pro Gly Glu Ser  
 260 265 270  
 Ile Gln Asn Phe Leu Glu Thr Arg Val Ser Asp Phe Gly Gly Asp Asp  
 275 280 285  
 Ser Asp Ile Asp Tyr Thr Ser Asp Ile Ala Arg Leu Gly Ser Ala Leu  
 290 295 300  
 Asp Arg Val Arg Glu Asn His Pro Asn Glu Met Pro Arg Ile Trp Ile  
 305 310 315 320  
 Ala Leu Ala Arg Glu Leu Gly Ala Ala Val His Ser His Ala Thr Ser  
 325 330 335  
 Val Arg Ile Ala Asn Ala Gly Lys Asn His Thr Arg Asp Val Val Arg  
 340 345 350  
 Met Ala Asn Glu Ser Ser Arg Leu Leu Gln Gly Met Lys Val Leu Ser  
 355 360 365  
 Val Gly Ala Trp Ala Asn Thr Met Thr Val Leu Ile Gly Asp Leu Phe  
 370 375 380  
 Glu  
 385

<210> 680  
 <211> 216  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 680  
 Lys Ile Ile Met Ser Val Asn Pro Ser Gly Asn Ser Lys Asn Asp Leu  
 1 5 10 15  
 Trp Ile Thr Gly Ala His Asp Gln His Pro Asp Val Lys Glu Ser Gly  
 20 25 30  
 Val Thr Ser Ala Asn Leu Gly Ser His Arg Val Thr Ala Ser Gly Gly  
 35 40 45  
 Arg Gln Gly Leu Leu Ala Arg Ile Lys Glu Ala Val Thr Gly Phe Phe  
 50 55 60  
 Ser Arg Met Ser Phe Phe Arg Ser Gly Ala Pro Arg Gly Ser Gln Gln  
 65 70 75 80  
 Pro Ser Ala Pro Ser Ala Asp Thr Val Arg Ser Pro Leu Pro Gly Gly  
 85 90 95  
 Asp Ala Arg Ala Thr Glu Gly Ala Gly Arg Asn Leu Ile Lys Lys Gly  
 100 105 110  
 Tyr Gln Pro Gly Met Lys Val Thr Ile Pro Gln Val Pro Gly Gly Gly  
 115 120 125  
 Ala Gln Arg Ser Ser Gly Ser Thr Thr Leu Lys Pro Thr Arg Pro Ala  
 130 135 140  
 Pro Pro Pro Pro Lys Thr Gly Gly Thr Asn Ala Lys Arg Pro Ala Thr  
 145 150 155 160  
 His Gly Lys Gly Pro Ala Pro Gln Pro Pro Lys Thr Gly Gly Thr Asn  
 165 170 175  
 Ala Lys Arg Ala Ala Thr His Gly Lys Gly Pro Ala Pro Gln Pro Pro  
 180 185 190  
 Lys Gly Ile Leu Lys Gln Pro Gly Gln Ser Gly Thr Ser Gly Lys Lys  
 195 200 205  
 Arg Val Ser Trp Ser Asp Glu Asp  
 210 215

<210> 681  
 <211> 404  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 681

Gly	Tyr	Met	Asp	Lys	Leu	Thr	Val	Gln	Asp	Leu	Ser	Pro	Glu	Glu	Lys
1				5				10						15	
Lys	Val	Leu	Val	Arg	Val	Asp	Phe	Asn	Val	Pro	Met	Gln	Asp	Gly	Lys
		20					25						30		
Ile	Leu	Asp	Asp	Ile	Arg	Ile	Arg	Ser	Ala	Met	Pro	Thr	Ile	Asn	Tyr
	35					40						45			
Leu	Leu	Lys	Lys	His	Ala	Ala	Val	Ile	Leu	Met	Ser	His	Leu	Gly	Arg
	50					55					60				
Pro	Lys	Gly	Gln	Gly	Phe	Gln	Glu	Glu	Tyr	Ser	Leu	Gln	Pro	Val	Val
65					70				75						80
Asp	Val	Leu	Glu	Gly	Tyr	Leu	Gly	His	His	Val	Pro	Leu	Ala	Pro	Asp
				85				90						95	
Cys	Val	Gly	Glu	Val	Ala	Arg	Gln	Ala	Val	Ala	Gln	Leu	Ser	Pro	Gly
		100					105					110			
Arg	Val	Leu	Leu	Leu	Glu	Asn	Leu	Arg	Phe	His	Ile	Gly	Glu	Glu	His
		115				120						125			
Pro	Glu	Lys	Asp	Pro	Thr	Phe	Ala	Ala	Glu	Leu	Ser	Ser	Tyr	Gly	Asp
	130					135					140				
Phe	Tyr	Val	Asn	Asp	Ala	Phe	Gly	Thr	Ser	His	Arg	Lys	His	Ala	Ser
145					150				155						160
Val	Tyr	Val	Val	Pro	Gln	Ala	Phe	Pro	Gly	Arg	Ala	Ala	Ala	Gly	Leu
				165				170						175	
Leu	Met	Glu	Lys	Glu	Leu	Glu	Phe	Leu	Gly	Arg	His	Leu	Leu	Thr	Ser
			180				185						190		
Pro	Lys	Arg	Pro	Phe	Thr	Ala	Ile	Leu	Gly	Gly	Ala	Lys	Ile	Ser	Ser
	195				200							205			
Lys	Ile	Gly	Val	Ile	Glu	Ala	Leu	Leu	Asn	Gln	Val	Asp	Tyr	Leu	Leu
	210				215						220				
Leu	Ala	Gly	Gly	Met	Gly	Phe	Thr	Phe	Leu	Gln	Ala	Leu	Gly	Lys	Ser
225					230				235						240
Leu	Gly	Asn	Ser	Leu	Val	Glu	Lys	Ser	Ala	Leu	Asp	Leu	Ala	Arg	Asn
				245				250						255	
Val	Leu	Lys	Ile	Ala	Lys	Ser	Arg	Asn	Val	Thr	Ile	Val	Leu	Pro	Ser
		260					265						270		
Asp	Val	Lys	Ala	Ala	Glu	Asn	Leu	Gln	Ser	Lys	Glu	Tyr	Ser	Val	Ile
	275					280						285			
Ser	Ile	Asp	Gln	Gly	Ile	Pro	Pro	His	Leu	Gln	Gly	Phe	Asp	Ile	Gly
	290				295						300				
Pro	Arg	Thr	Thr	Glu	Glu	Phe	Ile	Arg	Ile	Ile	Asn	Gln	Ser	Ala	Thr
305					310					315					320
Val	Phe	Trp	Asn	Gly	Pro	Val	Gly	Val	Tyr	Glu	Val	Pro	Pro	Phe	Asp
				325				330						335	
Ser	Gly	Ser	Ile	Ala	Ile	Ala	Asn	Ala	Leu	Gly	Asn	His	Pro	Ser	Ala
			340				345						350		
Val	Thr	Val	Val	Gly	Gly	Gly	Asp	Ala	Ala	Ala	Val	Val	Val	Ala	Leu
		355				360						365			
Gly	Cys	Ser	Thr	Lys	Val	Ser	His	Val	Ser	Thr	Gly	Gly	Gly	Ala	Ser
	370				375						380				
Leu	Glu	Phe	Leu	Glu	Gln	Gly	Phe	Leu	Pro	Gly	Thr	Glu	Val	Leu	Ser
385				390					395						400
Pro	Ser	Lys	Ser												

<210> 682  
 <211> 428  
 <212> PRT  
 <213> Chlamydia pneumoniae



<400> 682

Tyr	Ser	Met	Leu	Pro	Leu	Ile	Ile	Phe	Val	Leu	Leu	Cys	Gly	Phe	Tyr	1	5	10	15
Thr	Ser	Trp	Asn	Ile	Gly	Ala	Asn	Asp	Val	Ala	Asn	Ala	Val	Gly	Pro	20	25	30	
Ser	Val	Gly	Ser	Gly	Val	Leu	Thr	Leu	Arg	Gln	Ala	Val	Val	Ile	Ala	35	40	45	
Ala	Ile	Phe	Glu	Phe	Phe	Gly	Ala	Leu	Leu	Leu	Gly	Asp	Arg	Val	Ala	50	55	60	
Gly	Thr	Ile	Glu	Ser	Ser	Ile	Val	Ser	Val	Thr	Asn	Pro	Met	Ile	Ala	65	70	75	80
Ser	Gly	Asp	Tyr	Met	Tyr	Gly	Met	Thr	Ala	Ala	Leu	Leu	Ala	Thr	Gly	85	90	95	
Val	Trp	Leu	Gln	Leu	Ala	Ser	Phe	Phe	Gly	Trp	Pro	Val	Ser	Thr	Thr	100	105	110	
His	Ser	Ile	Val	Gly	Ala	Val	Ile	Gly	Phe	Gly	Leu	Val	Leu	Gly	Lys	115	120	125	
Gly	Thr	Ile	Ile	Tyr	Trp	Asn	Ser	Val	Gly	Ile	Ile	Leu	Ile	Ser	Trp	130	135	140	
Ile	Leu	Ser	Pro	Phe	Met	Gly	Gly	Cys	Val	Ala	Tyr	Leu	Ile	Phe	Ser	145	150	155	160
Phe	Ile	Arg	Arg	His	Ile	Phe	Tyr	Lys	Asn	Asp	Pro	Val	Leu	Ala	Met	165	170	175	
Val	Arg	Val	Ala	Pro	Phe	Leu	Ala	Ala	Leu	Val	Ile	Met	Thr	Leu	Gly	180	185	190	
Thr	Val	Met	Ile	Ser	Gly	Gly	Val	Ile	Leu	Lys	Val	Ser	Ser	Thr	Pro	195	200	205	
Trp	Ala	Val	Ser	Gly	Val	Leu	Val	Cys	Gly	Leu	Leu	Ser	Tyr	Ile	Ile	210	215	220	
Thr	Phe	Tyr	Tyr	Val	His	Thr	Lys	His	Cys	Ser	Tyr	Ile	Ser	Asp	Thr	225	230	235	240
Pro	Lys	Lys	Gly	Ser	Leu	Thr	Tyr	Arg	Leu	Lys	Glu	Arg	Gly	Gly	Asn	245	250	255	
Tyr	Gly	Arg	Lys	Tyr	Leu	Val	Val	Glu	Arg	Ile	Phe	Ala	Tyr	Leu	Gln	260	265	270	
Ile	Ile	Val	Ala	Cys	Phe	Met	Ala	Phe	Ala	His	Gly	Ser	Asn	Asp	Val	275	280	285	
Ala	Asn	Ala	Ile	Ala	Pro	Val	Ala	Gly	Val	Leu	Arg	Gln	Ala	Tyr	Pro	290	295	300	
Ala	Ser	Tyr	Thr	Ser	Tyr	Thr	Leu	Ile	Arg	Leu	Met	Ala	Phe	Gly	Gly	305	310	315	320
Ile	Gly	Leu	Val	Ile	Gly	Leu	Ala	Ile	Trp	Gly	Trp	Arg	Val	Ile	Glu	325	330	335	
Thr	Val	Gly	Cys	Lys	Ile	Thr	Glu	Leu	Thr	Pro	Ser	Arg	Gly	Phe	Ser	340	345	350	
Val	Gly	Met	Gly	Ser	Ala	Leu	Thr	Ile	Ala	Leu	Ala	Ser	Ile	Leu	Gly	355	360	365	
Leu	Pro	Ile	Ser	Thr	Thr	His	Val	Val	Val	Gly	Ala	Val	Leu	Gly	Ile	370	375	380	
Gly	Leu	Ala	Arg	Gly	Ile	Arg	Ala	Ile	Asn	Leu	Asn	Ile	Ile	Lys	Asp	385	390	395	400
Ile	Val	Leu	Ser	Trp	Phe	Ile	Thr	Leu	Pro	Ala	Gly	Ala	Leu	Leu	Ser	405	410	415	
Ile	Leu	Phe	Phe	Phe	Ala	Leu	Arg	Ala	Leu	Phe	His					420	425		

<210> 683

<211> 248

<212> PRT

<213> Chlamydia pneumoniae

<400> 683

Asn	Gly	Ile	Arg	Ser	His	Lys	Ser	Phe	Thr	Arg	Ser	Phe	Arg	Gln	Val
1				5					10					15	
Ile	Ile	Ala	Lys	Lys	Ala	Ile	Leu	Met	Gln	Thr	Leu	Ala	Arg	Leu	Phe
			20					25					30		
Gly	Gln	Ser	Pro	Phe	Ala	Pro	Leu	Gln	Ala	His	Leu	Glu	Met	Val	Val
		35					40					45			
Ser	Cys	Val	Glu	Tyr	Met	Leu	Pro	Ile	Phe	Thr	Ala	Leu	Arg	Asp	Gly
	50					55					60				
Arg	Tyr	Glu	Glu	Leu	Leu	Glu	Met	Ala	Lys	Leu	Val	Ser	Asp	Lys	Glu
65					70					75				80	
Tyr	Gln	Ala	Asp	Cys	Ile	Lys	Asn	Asp	Met	Arg	Asn	His	Leu	Pro	Ala
				85					90					95	
Gly	Leu	Phe	Met	Pro	Ile	Ser	Arg	Ala	Gly	Ile	Leu	Glu	Ile	Ile	Ser
			100					105					110		
Ile	Gln	Asp	Ser	Ile	Ala	Asp	Thr	Ala	Glu	Asp	Val	Ala	Ile	Leu	Leu
		115					120					125			
Thr	Ile	Arg	Arg	Leu	Asn	Phe	Tyr	Pro	Ser	Met	Glu	Thr	Leu	Phe	Phe
					135						140				
Arg	Phe	Leu	Glu	Lys	Asn	Leu	Glu	Ala	Phe	Glu	Leu	Thr	Met	Thr	Leu
145					150					155					160
Leu	His	Glu	Phe	Asn	Gln	Leu	Leu	Glu	Ser	Ser	Phe	Gly	Gly	Arg	Lys
				165					170					175	
Ala	Asp	Lys	Ala	Arg	Leu	Leu	Val	Gly	Arg	Val	Ala	Lys	Ser	Glu	His
			180					185					190		
Glu	Ser	Asp	Val	Leu	Gln	Arg	Glu	Leu	Met	Gln	Ile	Phe	Phe	Ser	Asp
		195					200					205			
Asp	Phe	Ile	Ile	Pro	Glu	Lys	Glu	Phe	Tyr	Leu	Trp	Leu	Gln	Val	Ile
	210					215					220				
Arg	Arg	Thr	Ala	Gly	Ile	Ser	Asp	Ser	Ser	Glu	Lys	Leu	Ala	His	Arg
225					230					235					240
Ile	Asn	Met	Thr	Leu	Glu	Glu	Lys								
					245										

<210> 684

<211> 348

<212> PRT

<213> Chlamydia pneumoniae

<400> 684

Thr	Ser	Lys	Gly	Leu	His	Lys	Asn	Ser	Leu	Phe	Arg	Asn	Asn	Asn	Leu
1				5					10					15	
Pro	Lys	Arg	Ser	Cys	Lys	Arg	Leu	Met	Ala	Ser	Asn	Pro	Ile	Leu	Gln
			20					25					30		
Ile	Glu	Asp	Leu	Ser	Ile	Thr	Leu	Ala	Lys	Gln	Arg	Gln	Gln	Tyr	Pro
		35					40					45			
Ile	Val	Gln	Ser	Leu	Ser	Phe	Thr	Ile	Asn	Glu	Gly	Gln	Thr	Leu	Ala
	50					55					60				
Ile	Ile	Gly	Glu	Ser	Gly	Ser	Gly	Lys	Ser	Val	Ser	Ala	His	Ala	Ile
65					70					75				80	
Leu	Arg	Leu	Leu	Pro	Cys	Pro	Pro	Phe	Ser	Val	Ser	Gly	Gln	Val	Asn
				85					90					95	
Phe	Gln	Gly	His	Asn	Leu	Leu	Thr	Ala	Ser	Arg	Ser	Ile	Gln	Lys	Lys
			100					105					110		
Ile	Ile	Gly	Thr	Glu	Ile	Ser	Met	Ile	Phe	Gln	Asn	Pro	Gln	Ala	Ser
		115					120					125			
Leu	Asn	Pro	Val	Phe	Thr	Ile	Glu	Gln	Gln	Phe	Arg	Glu	Ile	Ile	His
	130					135					140				
Thr	His	Leu	Ala	Leu	Thr	Ala	Glu	Val	Ala	Lys	Glu	Lys	Met	Leu	Tyr
145					150					155					160





<210> 687  
 <211> 64  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 687  
 Phe Pro Gln Ser Gln Tyr Leu Leu Ile Phe Pro Asn Arg Ile Leu Asp  
 1 5 10 15  
 Leu Gln Ala Phe Glu Ile Leu Asp Val Gln Gly Met Leu Thr Asp Gln  
 20 25 30  
 Arg Lys His Ile Gln Met Leu His Lys His Asn Ser Ile Glu Ile Phe  
 35 40 45  
 Leu Ser Asn Met Val Val Glu Val Lys Leu Phe Phe Lys Thr Leu Lys  
 50 55 60

<210> 688  
 <211> 66  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 688  
 Ala Lys Asp Ser Met Met Arg Gly Gly Arg Leu Phe Arg Val Tyr Gln  
 1 5 10 15  
 Glu Leu Phe Phe Phe Ser Ser Val Tyr Val Cys Glu Gln Arg Arg Pro  
 20 25 30  
 Arg Lys Leu Tyr Pro Ser Leu Gln His Leu Asn Phe Pro Ile Glu Lys  
 35 40 45  
 Pro Arg Phe Leu Leu Lys Gly Phe Lys Lys Glu Leu His Phe Tyr Asn  
 50 55 60  
 His Val  
 65

<210> 689  
 <211> 238  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 689  
 Arg Lys Ile His Lys Asn Leu Arg His Ala Tyr Arg Phe Ser Thr Pro  
 1 5 10 15  
 Asn Cys Arg Ser Phe Met Gln Lys Leu Val His Asn Ile Trp Lys Lys  
 20 25 30  
 Phe Tyr Ser Phe Ser Ser Ala Ile Ala Ile Cys Ile Val Leu Ala Ser  
 35 40 45  
 Phe Leu Ser Leu Lys Ile Val Ser Asn Thr Tyr Lys His Ser Gln Ala  
 50 55 60  
 Lys Arg Asn Ser Ile Leu Leu Leu Thr Arg Ala Ala Glu Val Ala Val  
 65 70 75 80  
 Ser Gln Gly Phe Leu Pro Ser Lys Ser Ala Leu Ser Ser Leu Glu Gln  
 85 90 95  
 Ala Tyr His Leu Gly Gly Glu Ser Met Lys Pro Tyr Ala Gly Phe Leu  
 100 105 110  
 Ala Ser Cys Phe Tyr Ile His Asn Glu Pro Leu Arg Gly Ala Tyr Tyr  
 115 120 125  
 Ala Gly Leu Ala Tyr Asn Asn Ser Gln Ala Leu Gln Leu Pro His Pro  
 130 135 140  
 Ile Gln Lys Leu Leu Lys Glu Ile Ser Glu Ala Gln Ala Asp Gln Leu  
 145 150 155 160  
 Tyr Asp Val Ala Leu Ser Lys Ser Tyr Gln Leu Leu Gln Thr Ala Asn  
 165 170 175

Ser	Ser	Pro	Glu	Tyr	Pro	Thr	Leu	Ser	Phe	Leu	Thr	Leu	Leu	Arg	Val
			180					185					190		
Ile	Glu	Leu	Lys	Glu	Leu	Leu	His	Gln	Asp	Val	Ser	Gln	Asp	Phe	Ala
		195					200					205			
Ala	Leu	Lys	Ser	Ser	Pro	Leu	Phe	His	Gln	Phe	Glu	Arg	Met	Tyr	Ser
	210					215					220				
Asp	Gly	Glu	Trp	Thr	Leu	Ser	Lys	Arg	Phe	Gly	Lys	Lys	Gly		
225					230					235					

<210> 690  
 <211> 254  
 <212> PRT  
 <213> Chlamydia pneumoniae

Ser	Leu	Met	Leu	Ile	Val	Leu	Ala	Phe	Arg	Gln	Val	Phe	Phe	Ser	His
1				5					10					15	
Ser	Arg	Ser	Gln	Leu	Asp	Arg	Leu	Lys	Asn	Tyr	Leu	Arg	Leu	Leu	Lys
			20					25					30		
Gln	Asn	Phe	Ala	Ile	Thr	Leu	Pro	Lys	Glu	Arg	Thr	Ser	Lys	Gly	His
		35					40					45			
Ser	Leu	Met	Leu	Thr	Phe	Asp	Phe	Ala	Ser	Phe	Asp	Phe	Tyr	Thr	Asn
	50					55					60				
Ile	Phe	Pro	Phe	Leu	Glu	Glu	Gln	Lys	Ile	Pro	Ala	Val	Val	Gly	Val
65					70					75				80	
Ala	Ser	Arg	Tyr	Ile	Pro	Ser	Asn	Ala	Ala	Gln	Asp	Leu	His	Pro	Ser
				85				90						95	
His	Arg	Leu	Lys	Pro	Ser	Glu	Thr	Leu	Ala	Phe	Gln	Asp	Glu	Ile	Phe
			100					105					110		
Ser	Asn	Tyr	Met	Pro	Phe	Cys	Cys	Gln	Asn	Glu	Leu	Ile	Glu	Met	Ala
		115					120					125			
Lys	Ser	Pro	Tyr	Ile	Gln	Leu	Ala	Ser	Ser	Gly	Phe	Ala	Ile	Arg	Asn
	130					135					140				
Leu	Met	Asn	Asn	Pro	Pro	Tyr	Leu	Thr	Thr	Glu	Ile	Leu	Leu	Ser	Arg
145					150					155				160	
His	His	Ile	Glu	Thr	Ile	Thr	Gly	Ala	Lys	Pro	Leu	Ala	Phe	Leu	Phe
				165				170						175	
Pro	Phe	Gly	Lys	Ser	Asp	Pro	Thr	Ser	Arg	Lys	Leu	Ala	Ala	Asp	His
			180					185					190		
Tyr	Pro	Tyr	Ser	Phe	Leu	Leu	Gly	Asn	Thr	Ile	Asn	Arg	Lys	Leu	Lys
		195					200					205			
Thr	His	Asn	Ile	Tyr	Arg	Leu	Asp	Ile	Lys	Pro	Met	Gln	Tyr	Val	Cys
	210					215					220				
Pro	Ser	Leu	Phe	Gln	Ser	Ser	Arg	Tyr	Leu	Lys	Asn	Trp	Ile	Lys	Glu
225					230					235				240	
Lys	Ser	Lys	Gln	Leu	Tyr	Leu	Lys	Lys	Gln	Leu	Pro	Lys	Arg		
				245					250						

<210> 691  
 <211> 407  
 <212> PRT  
 <213> Chlamydia pneumoniae

Ser	Val	Lys	Asn	Leu	Lys	Glu	Asp	Phe	Pro	Ile	Phe	Ala	Ala	Lys	Ala
1				5					10					15	
Lys	Glu	Asn	Glu	Pro	Phe	Ile	Tyr	Leu	Asp	Ser	Ala	Ala	Thr	Thr	Gln
			20					25					30		
Lys	Pro	Gln	Gln	Val	Ile	Asp	Ala	Val	Ala	Asn	Phe	Tyr	Thr	Ser	Ser
		35					40					45			

Tyr Ala Thr Val Asn Arg Ala Ile Tyr Ser Ser Ser Arg Asn Val Thr  
 50 55 60  
 Glu Ala Tyr Ala Ala Val Arg Glu Lys Val Arg Lys Trp Val Ser Ala  
 65 70 75 80  
 Ala Ser Asp Ser Glu Ile Val Phe Thr Arg Gly Thr Thr Ala Gly Leu  
 85 90 95  
 Asn Leu Leu Ala Ile Ser Val Asn Asp Leu Trp Ile Pro Lys Gly Gly  
 100 105 110  
 Val Val Leu Val Ser Glu Ala Glu His His Ala Asn Val Leu Ser Trp  
 115 120 125  
 Glu Ile Ala Cys Arg Arg Arg Gly Ser Leu Val Lys Lys Ile Arg Val  
 130 135 140  
 His Asp Ser Gly Leu Ile Asp Leu Asp Asp Leu Glu Lys Leu Leu Asn  
 145 150 155 160  
 Glu Gly Ala Gln Phe Val Ser Ile Pro His Val Ser Asn Val Thr Gly  
 165 170 175  
 Cys Val Gln Pro Leu Gln Gln Val Ala Glu Leu Val His Arg Tyr Asp  
 180 185 190  
 Ala Tyr Leu Ala Val Asp Gly Ala Gln Gly Ala Pro His Leu Pro Ile  
 195 200 205  
 Asp Val Gln Leu Trp Asp Val Asp Phe Tyr Val Phe Ser Ser His Lys  
 210 215 220  
 Ile Tyr Gly Pro Thr Gly Ile Gly Val Leu Tyr Gly Lys Lys Asp Leu  
 225 230 235 240  
 Leu Asp Gln Leu Pro Val Glu Gly Gly Gly Asp Met Val Ala Ile  
 245 250 255  
 Tyr Asp His Gln Asn Pro Glu Tyr Leu Pro Ala Pro Met Lys Phe Glu  
 260 265 270  
 Ala Gly Thr Pro Asn Ile Ala Gly Val Leu Gly Leu Gly Ala Ala Leu  
 275 280 285  
 Asp Tyr Leu Asp Gly Leu Ser Ala Lys Phe Ile Tyr Asp Lys Glu Ile  
 290 295 300  
 Ala Leu Thr Thr Tyr Leu His Lys Glu Leu Leu Glu Ile Pro Gly Val  
 305 310 315 320  
 Glu Ile Leu Gly Pro Ser Ile Glu Glu Pro Arg Gly Ala Leu Ile Gly  
 325 330 335  
 Met Thr Ile Asp Gly Ala His Pro Leu Asp Leu Gly Phe Leu Leu Asp  
 340 345 350  
 Leu Arg Gly Ile Ala Val Arg Thr Gly His Gln Cys Ala Gln Pro Ala  
 355 360 365  
 Met Glu Arg Trp Asn Val Gly His Val Leu Arg Val Ser Leu Gly Ile  
 370 375 380  
 Tyr Asn Asp Glu Asp Asp Ile Asp Gln Phe Ile Leu Val Leu Gln Asp  
 385 390 395 400  
 Ser Leu Asp Lys Ile Arg Arg  
 405

<210> 692

<211> 423

<212> PRT

<213> Chlamydia pneumoniae

<400> 692

Leu Ser Val Leu Arg Gly Asp Lys Val Leu Val Ser Ile Glu Thr Phe  
 1 5 10 15  
 Ser Ser Ile Ala Ser Gly Ser Pro Val Gln Lys Ala Ala Glu Ala Cys  
 20 25 30  
 Tyr Thr Gln Tyr Ser Lys Gln Pro Ser Ser Lys Glu Val Leu Ser Ser  
 35 40 45  
 Phe Ser Trp Ile Gln Glu Leu Ser Leu Phe Pro Asp Arg Tyr Asn Leu  
 50 55 60

Ala	Thr	Gly	Ala	Ser	Glu	Leu	Ile	Lys	Gln	His	Trp	Leu	His	Asn	Asn	
65					70					75					80	
His	Ser	Leu	Ala	Phe	Glu	Cys	Ile	Leu	Ile	Asn	Gly	Lys	Tyr	Glu	Pro	
			85						90					95		
Ser	Leu	Ser	Gln	Leu	Pro	Glu	Gly	Val	Ile	Val	Cys	Gly	Ile	Asp	Glu	
			100					105					110			
Ala	Arg	Gly	Ser	Leu	Ser	Ser	Phe	Met	Gln	Gly	Phe	Asp	Val	Asn	Lys	
		115					120					125				
His	Pro	Leu	Ala	Phe	Leu	Asn	Ala	Val	Cys	Ser	Glu	Asp	Arg	Gly	Val	
		130				135					140					
Val	Ile	Tyr	Ile	Pro	Glu	Glu	Met	Gln	Thr	Ser	Asp	Pro	Ile	Phe	Val	
145					150					155					160	
Arg	His	Ile	Ser	Phe	Pro	Thr	Val	Ser	Asp	His	Asp	Val	Ile	Phe	Ser	
				165					170					175		
Pro	Arg	Ile	Val	Val	Ile	Leu	Gly	Gln	Arg	Ala	Ser	Ala	Gln	Ile	Gln	
			180					185					190			
Ile	Ser	His	Asp	Val	Asp	Leu	Glu	Met	Val	Gly	Ser	Ser	Lys	Thr	Ile	
		195					200					205				
Val	Asn	Gly	Val	Thr	Glu	Leu	Phe	Val	Gly	Glu	Gly	Ala	Asp	Leu	Thr	
	210					215				220						
Val	Phe	Met	Val	Pro	Gly	Tyr	Ser	Glu	Glu	Asp	Thr	Leu	Ser	Trp	Ser	
225					230					235					240	
Thr	Ile	Ala	Thr	Val	Glu	Lys	Asp	Ala	Ile	Cys	Arg	Met	Thr	Gln	Asn	
				245				250						255		
Leu	Leu	Glu	Ser	Cys	Gln	Gly	Phe	Gly	Trp	Phe	Asp	Asn	Thr	Ser	Tyr	
			260					265					270			
Ile	Val	Gly	Lys	Lys	Gly	His	Ala	Glu	Ser	Leu	Val	Leu	Val	Gln	Ser	
		275				280						285				
Pro	Arg	Lys	Thr	Trp	Val	Asn	Asn	Leu	Met	Ser	His	Asp	Ala	Glu	Glu	
		290				295					300					
Thr	Val	Ser	Arg	Gln	Asn	Ile	Lys	Ser	Ile	Leu	Tyr	Ser	Gly	His	Phe	
305					310					315					320	
Leu	Phe	Glu	Gly	Thr	Ile	Ser	Ile	Ser	Ser	Gln	Gly	Asp	Leu	Ser	Asp	
				325					330					335		
Ala	Asn	Gln	Lys	His	Asp	Thr	Leu	Leu	Ser	Ser	Glu	Ala	Arg	Val		
			340					345				350				
Ser	Thr	Phe	Pro	Arg	Leu	Glu	Ile	Glu	Thr	Asp	Glu	Val	Lys	Ala	Ser	
		355					360					365				
His	Gly	Ala	Thr	Val	Gly	Pro	Leu	Asp	Pro	Gln	Gln	Ile	Phe	Tyr	Met	
		370				375					380					
Arg	Ser	Arg	Gly	Met	Thr	Glu	Ala	Glu	Ala	Gln	Glu	Lys	Leu	Ile	His	
385					390					395					400	
Gly	Phe	Leu	Lys	Gln	Gly	Leu	Val	Ser	Asp	Thr	Phe	Leu	Gly	Ser	Ser	
				405					410					415		
Phe	Gln	Leu	Asn	Gln	Thr	Ser										
			420													

<210> 693

<211> 261

<212> PRT

<213> Chlamydia pneumoniae

<400> 693

Arg	Gly	Leu	Gly	Ser	Met	Leu	Lys	Ile	Lys	His	Leu	His	Ala	Ser	Cys	
1				5					10					15		
Asn	Asp	Val	Lys	Ile	Leu	Asp	Asp	Phe	Asn	Leu	Asn	Ile	Gln	Pro	Gly	
			20					25					30			
Thr	Met	His	Val	Ile	Met	Gly	Pro	Asn	Gly	Ala	Gly	Lys	Ser	Thr	Leu	
		35				40						45				
Ala	Lys	Ile	Leu	Ala	Gly	Asp	Glu	Ser	Val	Leu	Val	Ser	Ser	Gly	Glu	
	50					55					60					



Ile	Ala	Leu	Gln	Glu	Gln	Asn	Leu	Leu	Ser	Met	Leu	Pro	Glu	Glu	Arg
65					70					75					80
Ser	Arg	Ala	Gly	Leu	Phe	Val	Gly	Phe	Gln	Met	Pro	Pro	Glu	Ile	Pro
				85					90					95	
Gly	Val	Asn	Asn	Lys	Met	Phe	Leu	Arg	Asp	Ala	Tyr	Asn	Ala	Arg	Arg
			100					105					110		
Arg	Ala	Asn	Gln	Glu	Gly	Asp	Ile	Ser	Ile	Asp	Glu	Phe	Asn	Thr	Leu
		115					120					125			
Leu	Ser	Thr	Val	Leu	Glu	Thr	Tyr	Glu	Tyr	Asn	Ala	Thr	Thr	Asp	Leu
	130					135					140				
Phe	Leu	Asp	Arg	Asn	Val	Asn	Glu	Gly	Phe	Ser	Gly	Gly	Glu	Arg	Lys
145					150					155					160
Arg	Asn	Glu	Ile	Cys	Gln	Met	Leu	Val	Leu	Glu	Pro	Glu	Met	Val	Leu
				165					170					175	
Leu	Asp	Glu	Pro	Asp	Ser	Gly	Leu	Asp	Val	Asp	Ala	Leu	Arg	Leu	Ile
			180					185					190		
Cys	Arg	Val	Leu	Glu	Lys	Tyr	Arg	Glu	Leu	His	Pro	Thr	Ser	Ser	Leu
		195					200					205			
Cys	Ile	Val	Thr	His	Asn	Pro	Lys	Leu	Gly	Asn	Leu	Ile	Arg	Pro	Asp
	210					215				220					
Val	Val	His	Leu	Leu	Leu	Asp	Gly	Arg	Val	Ala	Leu	Ser	Gly	Asp	Val
225					230					235					240
Ser	Leu	Met	His	Glu	Leu	Glu	Ala	Lys	Ser	Tyr	Gln	Glu	Val	Thr	Lys
				245					250					255	
Arg	Val	Ala	Trp	Arg											
			260												

<210> 694  
 <211> 495  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 694

Ile	Gln	Glu	Phe	Cys	Ala	Thr	Gly	Leu	Lys	Val	Met	Gly	Glu	Ser	Val
1				5					10					15	
Lys	Val	Phe	Leu	Glu	Glu	Arg	Glu	Asp	Tyr	Pro	Tyr	Gly	Phe	Val	Thr
			20					25					30		
Pro	Ile	Glu	Ser	Gln	Gly	Leu	Thr	Arg	Gly	Leu	Ser	Glu	Glu	Thr	Ile
		35					40					45			
Glu	Glu	Ile	Ala	Ala	Leu	Arg	Asn	Glu	Pro	Gln	Phe	Ile	Ile	Asp	Phe
	50					55					60				
Arg	Leu	Gln	Ala	Tyr	Arg	Tyr	Trp	Lys	Gln	Leu	His	Glu	Pro	Ala	Trp
65					70				75						80
Ala	Arg	Leu	His	Tyr	Gly	Pro	Ile	Ala	Tyr	Asp	Asp	Ile	Val	Tyr	Phe
				85					90					95	
Ser	Ser	Pro	Lys	Gln	Lys	Lys	Pro	Leu	Gly	Arg	Leu	Glu	Asp	Ala	Asp
			100					105					110		
Pro	Glu	Ile	Leu	Asp	Thr	Phe	Lys	Lys	Leu	Gly	Ile	Pro	Leu	Asp	Glu
		115					120					125			
Gln	Lys	Arg	Leu	Leu	Asn	Val	Glu	Asn	Val	Ala	Val	Asp	Leu	Val	Phe
	130					135					140				
Asp	Ser	Val	Ser	Ile	Gly	Thr	Thr	Phe	Lys	Glu	Ala	Leu	Glu	Lys	Ala
145					150					155					160
Gly	Val	Ile	Phe	Cys	Ser	Leu	Gly	Glu	Ala	Ile	Gln	Glu	His	Pro	Asn
				165					170					175	
Leu	Val	Lys	Lys	Tyr	Leu	Gly	Ser	Val	Val	Ser	His	Arg	Asp	Asn	Phe
			180					185					190		
Phe	Ala	Ala	Leu	Asn	Ala	Ala	Val	Phe	Ser	Asp	Gly	Ser	Phe	Val	Tyr
		195					200					205			
Val	Pro	Lys	Gly	Val	Lys	Cys	Pro	Met	Asp	Ile	Ser	Thr	Tyr	Phe	Arg
	210					215						220			

Ile	Asn	Asn	Lys	Glu	Ala	Gly	Gln	Phe	Glu	Arg	Thr	Leu	Ile	Val	Val	225	230	235	240
Glu	Asp	Gly	Gly	Tyr	Ala	Ser	Tyr	Leu	Glu	Gly	Cys	Thr	Ala	Pro	Ala	245	250	255	
Tyr	Ser	Ser	Asn	Gln	Leu	His	Ala	Ala	Val	Val	Glu	Leu	Val	Ala	His	260	265	270	
Glu	His	Ala	Val	Ile	Arg	Tyr	Ser	Thr	Val	Gln	Asn	Trp	Tyr	Ala	Gly	275	280	285	
Asp	Lys	Lys	Thr	Gly	Lys	Gly	Gly	Ile	Tyr	Asn	Phe	Val	Thr	Lys	Arg	290	295	300	
Gly	Leu	Cys	Ala	Gly	Tyr	Arg	Ser	Lys	Ile	Ser	Trp	Ser	Gln	Val	Glu	305	310	315	320
Val	Gly	Ala	Ala	Ile	Thr	Trp	Lys	Tyr	Pro	Ser	Cys	Ile	Leu	Lys	Gly	325	330	335	
Asp	Glu	Ser	Val	Gly	Glu	Phe	Tyr	Ser	Val	Ala	Leu	Thr	Ser	Gly	Lys	340	345	350	
Met	Gln	Ala	Asp	Thr	Gly	Thr	Lys	Gly	Met	Leu	His	Val	Gly	Lys	Arg	355	360	365	Thr
Thr	Ser	Thr	Val	Ile	Ser	Lys	Gly	Ile	Ser	Ser	Asp	Glu	Ser	Lys	Asn	370	375	380	
Thr	Phe	Arg	Ser	Leu	Val	Ser	Leu	Gly	Lys	Lys	Ala	Glu	His	Ser	Ser	385	390	395	400
Asn	Tyr	Thr	Gln	Cys	Asp	Ser	Met	Leu	Ile	Gly	Lys	Ala	Ser	Gly	Ala	405	410	415	
Tyr	Thr	Asp	Pro	Lys	Ile	Val	Val	Glu	Asn	Ser	Thr	Ser	Ser	Ile	Glu	420	425	430	
His	Glu	Ala	Thr	Thr	Ser	Lys	Leu	Arg	Glu	Asp	Gln	Leu	Leu	Tyr	Leu	435	440	445	
Arg	Ser	Arg	Gly	Leu	Ser	Pro	Glu	Glu	Ala	Val	Ser	Leu	Val	Ile	His	450	455	460	
Gly	Phe	Cys	Arg	Glu	Ile	Ile	Glu	Gln	Leu	Pro	Leu	Glu	Phe	Ala	Gln	465	470	475	480
Glu	Ala	Ser	Lys	Leu	Leu	Ile	Lys	Leu	Glu	Asn	Ser	Val	Gly			485	490	495	

<210> 695

<211> 351

<212> PRT

<213> Chlamydia pneumoniae

<400> 695

Leu	Arg	Ser	Thr	Asn	His	Val	Leu	Gly	Glu	Ile	Ser	Met	Glu	Glu	Ala	1	5	10	15
Ala	Lys	His	Leu	Ala	Lys	Glu	Phe	Leu	Cys	Ser	Gly	Ile	Asn	Leu	Phe	20	25	30	
Leu	Ser	Gly	Glu	Tyr	Glu	Gln	Ala	Glu	Lys	Arg	Leu	Lys	Glu	Thr	Leu	35	40	45	
Glu	Leu	Asp	Ser	Thr	Ala	Ala	Leu	Ala	Tyr	Cys	Tyr	Leu	Gly	Ile	Ile	50	55	60	
Ala	Leu	Glu	Thr	Gly	Arg	Val	Ser	Glu	Ala	Leu	Asn	Trp	Cys	Ser	Lys	65	70	75	80
Gly	Leu	Ala	Ser	Glu	Pro	Gly	Asp	Ser	Tyr	Leu	Arg	Tyr	Cys	Tyr	Gly	85	90	95	
Val	Ala	Leu	Asp	Arg	Gly	Asn	Gln	Tyr	Glu	Ala	Ala	Ile	Glu	Gln	Tyr	100	105	110	
Ser	Ala	Tyr	Val	Ala	Leu	His	Pro	Asp	Asp	Val	Glu	Cys	Trp	Phe	Ser	115	120	125	
Leu	Gly	Ser	Val	Tyr	His	Arg	Leu	Lys	Arg	Leu	Gln	Glu	Ala	Leu	Asp	130	135	140	
Cys	Phe	Asp	Lys	Ile	Leu	Ala	Leu	Asp	Pro	Trp	Asn	Pro	Gln	Ser	Leu	145	150	155	160

Tyr	Asn	Lys	Ala	Val	Ile	Leu	Ser	Glu	Met	Asp	Asp	Glu	Ala	Glu	Ser
				165					170					175	
Ile	Arg	Leu	Leu	Glu	Val	Ala	Val	Ala	Lys	Asn	Pro	Leu	Tyr	Trp	Lys
			180					185					190		
Ala	Trp	Val	Lys	Leu	Gly	Phe	Leu	Leu	Ser	Arg	Ser	Lys	Arg	Trp	Asp
		195					200					205			
Lys	Ala	Thr	Glu	Ala	Tyr	Glu	Arg	Val	Val	Gln	Leu	Arg	Pro	Asp	Leu
	210					215					220				
Ser	Asp	Gly	His	Tyr	Asn	Leu	Gly	Leu	Cys	Tyr	Leu	Thr	Leu	Asp	Lys
225					230					235					240
Thr	Arg	Leu	Ala	Leu	Lys	Ala	Phe	Gln	Glu	Ala	Leu	Phe	Leu	Asn	Ala
				245					250					255	
Glu	Asp	Ala	Asp	Ala	His	Phe	Tyr	Val	Gly	Leu	Ala	His	Leu	Asp	Leu
			260					265					270		
Lys	Gln	Met	Arg	Glu	Ala	Tyr	Glu	Ala	Phe	Asn	Ser	Ala	Leu	Ser	Ile
		275					280					285			
Asn	Leu	Glu	His	Glu	Arg	Ala	His	Tyr	Leu	Leu	Gly	Tyr	Leu	His	His
	290					295					300				
Met	Gln	Gly	Glu	Thr	Asp	Lys	Ala	Thr	Lys	Glu	Leu	Leu	Phe	Leu	Gln
305					310					315					320
Lys	Lys	Asp	Ser	Thr	Phe	Ala	Pro	Leu	Leu	Gln	Lys	Thr	Val	Val	Ser
				325				330						335	
Asp	Pro	Ser	Ser	Met	Gln	Phe	Glu	Arg	Arg	Leu	Asp	Thr	Ile	Ser	
			340					345					350		

<210> 696

<211> 1102

<212> PRT

<213> Chlamydia pneumoniae

<400> 696

Phe	Ser	Asp	Glu	Ser	Glu	Ala	His	Asn	Ile	His	Ser	Met	Lys	Arg	Pro
1				5					10					15	
Lys	Lys	Phe	Pro	Ile	Tyr	Leu	Ser	Ile	Ala	Gln	Lys	Thr	Asn	Arg	Leu
			20					25					30		
Leu	Ser	Gly	Ile	Val	Ile	Ala	Phe	Ala	Val	Ile	Ala	Leu	Arg	Leu	Trp
		35					40					45			
Tyr	Leu	Ala	Val	Val	Glu	His	Glu	Gln	Lys	Leu	Glu	Glu	Ala	Tyr	Lys
	50					55					60				
Pro	Gln	Ile	Arg	Val	Leu	Pro	Gln	Tyr	Val	Glu	Arg	Ala	Thr	Ile	Cys
65					70					75					80
Asp	Arg	Phe	Gly	Lys	Thr	Leu	Ala	Val	Asn	Gln	Leu	Gln	Tyr	Asp	Val
				85					90					95	
Ser	Val	Ala	Tyr	Gly	Ala	Ile	Arg	Asp	Leu	Pro	Thr	Arg	Ala	Trp	Arg
			100					105					110		
Val	Asp	Glu	His	Gly	His	Lys	Gln	Leu	Ile	Pro	Val	Arg	Lys	His	Tyr
		115					120					125			
Ile	Met	Cys	Leu	Ser	Glu	Leu	Leu	Ser	Gln	Glu	Leu	His	Leu	Asp	Arg
	130					135					140				
Glu	Ala	Ile	Glu	Asp	Ala	Ile	His	Ala	Lys	Ala	Ser	Val	Leu	Gly	Ser
145					150					155					160
Val	Pro	Tyr	Leu	Val	Ala	Ala	Asn	Val	Ser	Glu	Arg	Thr	Tyr	Leu	Lys
				165					170					175	
Leu	Lys	Met	Leu	Ser	Lys	Asp	Trp	Pro	Gly	Leu	His	Val	Glu	Ala	Val
			180					185					190		
Val	Arg	Arg	His	Tyr	Pro	Gln	Glu	Ser	Val	Ala	Ser	Asp	Ile	Leu	Gly
		195					200					205			
Tyr	Val	Gly	Pro	Ile	Ser	Leu	Gln	Glu	Tyr	Lys	Arg	Val	Thr	Gln	Glu
	210					215					220				
Leu	Ser	Gln	Leu	Arg	Glu	Cys	Val	Arg	Ala	Tyr	Glu	Glu	Gly	Glu	Asp
225					230					235					240

Pro	Lys	Leu	Pro	Glu	Gly	Leu	Ala	Ser	Ile	Asp	Gln	Val	Arg	Ala	Leu	
				245					250					255		
Leu	Glu	Ser	Val	Glu	Ser	Asn	Ala	Tyr	Ser	Leu	Asn	Ala	Leu	Val	Gly	
			260					265					270			
Lys	Met	Gly	Val	Glu	Ala	Cys	Trp	Asp	Ser	Lys	Leu	Arg	Gly	Lys	Ile	
		275					280					285				
Gly	Lys	Lys	Pro	Ile	Leu	Val	Asp	Arg	Arg	Gly	Asn	Phe	Ile	Gln	Glu	
	290					295					300					
Met	Glu	Gly	Ala	Val	Pro	Glu	Ala	Pro	Gly	Thr	Lys	Leu	Gln	Leu	Thr	
305					310					315					320	
Leu	Ser	Ala	Glu	Leu	Gln	Ala	Tyr	Ala	Asp	Ala	Leu	Leu	Leu	Glu	Tyr	
			325						330					335		
Glu	Lys	Thr	Glu	Thr	Phe	Arg	Ser	Ala	Lys	Ser	Leu	Lys	Lys	Arg	Glu	
		340						345					350			
Lys	Leu	Pro	Pro	Leu	Phe	Pro	Trp	Ile	Lys	Gly	Gly	Ala	Ile	Ile	Ala	
	355						360					365				
Leu	Asp	Pro	Asn	Asn	Gly	Glu	Ile	Leu	Ala	Met	Ala	Ser	Ser	Pro	Arg	
	370					375					380					
Tyr	Arg	Asn	Asn	Asp	Phe	Val	Asn	Ala	Lys	Val	Ala	Glu	Asp	Ser	Lys	
385				390						395					400	
Ala	Val	Arg	Ser	Ser	Ile	Tyr	Arg	Trp	Leu	Glu	Asn	Lys	Glu	His	Ile	
			405						410					415		
Ala	Glu	Ile	Tyr	Asp	Arg	Lys	Val	Pro	Leu	Ile	Arg	Glu	Arg	Arg	Asn	
		420						425					430			
Pro	Leu	Thr	Gly	Leu	Cys	Tyr	Glu	Glu	Ile	Leu	Pro	Leu	Thr	Phe	Asp	
	435						440					445				
Cys	Phe	Leu	Asp	Phe	Leu	Phe	Pro	Glu	Asn	Ser	Val	Ile	Lys	Leu	Gln	
	450					455					460					
Leu	Lys	Arg	Asn	Ser	Phe	Val	Gly	Gln	Ala	Ile	Glu	Val	Gln	Asn	Leu	
465					470					475					480	
Val	Thr	Arg	Leu	Leu	Ser	Leu	Phe	Pro	Tyr	Glu	Glu	Gly	Thr	Cys	Pro	
			485						490					495		
Cys	Ser	Ala	Ile	Phe	Asp	Ala	Val	Phe	Pro	Asn	Glu	Glu	Gly	His	Ile	
		500						505					510			
Leu	Ile	Gln	Glu	Val	Ile	Ser	Leu	Gln	Glu	Gln	Lys	Trp	Ile	Met	Glu	
	515						520					525				
Cys	Leu	Asn	Gln	His	Lys	Ala	Asp	Ile	Glu	Glu	Leu	Lys	Glu	Ala	Leu	
	530					535					540					
Asp	Gln	Val	Phe	Asn	Glu	Leu	Pro	Ala	Asn	Tyr	Asp	Lys	Ile	Leu	Tyr	
545				550						555					560	
Thr	Asp	Ile	Leu	Arg	Leu	Ile	Val	Asp	Pro	Glu	Arg	Phe	Ser	Pro	Val	
			565					570						575		
Leu	Pro	Ser	Glu	Val	His	Arg	Leu	Ser	Leu	Ser	Glu	Phe	Thr	Glu	Leu	
		580						585					590			
Gln	Gly	Arg	Tyr	Val	Val	Leu	Arg	Ser	Ala	Phe	Ser	Thr	Ile	Leu	Glu	
	595						600					605				
Asp	Ala	Phe	Ile	Glu	Val	His	Phe	Lys	Ser	Trp	Arg	Lys	Ser	Glu	Phe	
	610					615					620					
Leu	Gln	Tyr	Leu	Ala	Ala	Lys	Arg	Gln	Glu	Glu	Ala	Leu	Arg	Lys	Gln	
625				630						635					640	
Arg	Tyr	Pro	Thr	Pro	Tyr	Val	Asp	Tyr	Leu	Glu	Glu	Glu	Lys	Thr	Arg	
			645						650					655		
Gln	Tyr	Lys	Met	Phe	Cys	Gln	Glu	His	Leu	Asp	Thr	Phe	Leu	Ala	Tyr	
		660						665					670			
Leu	Phe	Ser	Lys	Thr	Pro	Tyr	Lys	Glu	Gly	Leu	Glu	Pro	Tyr	Tyr	Asp	
	675						680					685				
Ile	Leu	Asp	Leu	Trp	Ile	Asn	Glu	Leu	Asp	Asn	Gly	Ala	His	Arg	Ala	
	690					695					700					
Leu	Ser	Trp	His	Glu	His	Tyr	Leu	Phe	Leu	Lys	Glu	Arg	Val	Ser	His	
705					710					715					720	

Leu Ser Glu His Leu Pro Ala Leu Phe Ser Thr Phe Arg Glu Phe Asn  
 725 730 735  
 Glu Leu Gln Arg Pro Leu Leu Gly Lys Tyr Pro Ile Ser Ile Val Arg  
 740 745 750  
 Asn Lys Arg Gln Thr Glu Gln Asp Leu Ala Ala Ser Phe Tyr Pro Val  
 755 760 765  
 Tyr Gly Tyr Gly Tyr Leu Arg Pro His Ala Tyr Gly Gln Ala Ala Thr  
 770 775 780  
 Leu Gly Ser Ile Phe Lys Leu Val Ser Ala Tyr Ser Val Leu Ser Gln  
 785 790 795 800  
 Arg Ile Leu Trp Gly His Asn Glu Glu Pro Ala Asn Pro Leu Val Ile  
 805 810 815  
 Ile Asp Lys Asn Ser Phe Gly Tyr Arg Ser Ser Lys Pro His Val Gly  
 820 825 830  
 Phe Phe Lys Asp Gly Thr Pro Ile Pro Thr Phe Phe Arg Gly Gly Ser  
 835 840 845  
 Leu Pro Gly Asn Asp Phe Met Gly Arg Gly Phe Ile Asp Leu Val Ser  
 850 855 860  
 Ala Leu Glu Met Ser Ser Asn Pro Tyr Phe Ser Leu Leu Val Gly Glu  
 865 870 875 880  
 Gly Leu Gly Asp Pro Glu Asp Leu Ala Asp Ala Ala Ser Leu Phe Gly  
 885 890 895  
 Phe Gly Glu Lys Thr Gly Leu Gly Leu Pro Gly Glu Tyr Ala Gly Arg  
 900 905 910  
 Val Pro His Asp Leu Ala Tyr Asn Arg Ser Gly Leu Tyr Ala Thr Ala  
 915 920 925  
 Ile Gly Gln His Thr Leu Val Val Thr Pro Leu Gln Thr Ala Val Met  
 930 935 940  
 Leu Ala Ser Leu Val Asn Gly Gly Val Val Tyr Val Pro Lys Leu Leu  
 945 950 955 960  
 Leu Gly Glu Trp Glu Gly Glu His Val Ser Tyr Leu Ser Ser Lys Lys  
 965 970 975  
 Lys Arg Thr Ile Phe Met Pro Asp Ala Val Val Glu Val Leu Lys Thr  
 980 985 990  
 Gly Met Arg Asn Val Ile Trp Gly Gln Tyr Gly Thr Ala Arg Ala Ile  
 995 1000 1005  
 Gln Ser Gln Phe Pro Pro Gln Leu Leu Ser Arg Ile Ile Gly Lys Thr  
 1010 1015 1020  
 Ser Thr Ala Glu Ser Ile Met Arg Val Gly Leu Asp Arg Glu Tyr Gly  
 1025 1030 1035 1040  
 Thr Met Lys Met Lys Asp Ile Trp Phe Ala Ala Val Gly Phe Ser Asp  
 1045 1050 1055  
 Gln Asp Leu Ser Leu Pro Thr Ile Val Val Ile Val Tyr Leu Arg Leu  
 1060 1065 1070  
 Gly Glu Phe Gly Arg Asp Ala Ala Pro Met Ala Val Lys Met Ile Asp  
 1075 1080 1085  
 Met Trp Glu Lys Ile Gln Gln Arg Glu Ser Phe Leu Arg Gly  
 1090 1095 1100

<210> 697

<211> 394

<212> PRT

<213> Chlamydia pneumoniae

<400> 697

Ser Leu Glu Val Ser Met Lys Lys Leu Leu Lys Ser Ala Leu Leu Ser  
 1 5 10 15  
 Ala Ala Phe Ala Gly Ser Val Gly Ser Leu Gln Ala Leu Pro Val Gly  
 20 25 30  
 Asn Pro Ser Asp Pro Ser Leu Leu Ile Asp Gly Thr Ile Trp Glu Gly  
 35 40 45

Ala	Ala	Gly	Asp	Pro	Cys	Asp	Pro	Cys	Ala	Thr	Trp	Cys	Asp	Ala	Ile
50						55					60				
Ser	Leu	Arg	Ala	Gly	Phe	Tyr	Gly	Asp	Tyr	Val	Phe	Asp	Arg	Ile	Leu
65					70					75					80
Lys	Val	Asp	Ala	Pro	Lys	Thr	Phe	Ser	Met	Gly	Ala	Lys	Pro	Thr	Gly
				85					90					95	
Ser	Ala	Ala	Ala	Asn	Tyr	Thr	Thr	Ala	Val	Asp	Arg	Pro	Asn	Pro	Ala
			100					105					110		
Tyr	Asn	Lys	His	Leu	His	Asp	Ala	Glu	Trp	Phe	Thr	Asn	Ala	Gly	Phe
	115						120					125			
Ile	Ala	Leu	Asn	Ile	Trp	Asp	Arg	Phe	Asp	Val	Phe	Cys	Thr	Leu	Gly
	130					135					140				
Ala	Ser	Asn	Gly	Tyr	Ile	Arg	Gly	Asn	Ser	Thr	Ala	Phe	Asn	Leu	Val
145					150					155					160
Gly	Leu	Phe	Gly	Val	Lys	Gly	Thr	Thr	Val	Asn	Ala	Asn	Glu	Leu	Pro
				165					170					175	
Asn	Val	Ser	Leu	Ser	Asn	Gly	Val	Val	Glu	Leu	Tyr	Thr	Asp	Thr	Ser
			180					185					190		
Phe	Ser	Trp	Ser	Val	Gly	Ala	Arg	Gly	Ala	Leu	Trp	Glu	Cys	Gly	Cys
	195						200					205			
Ala	Thr	Leu	Gly	Ala	Glu	Phe	Gln	Tyr	Ala	Gln	Ser	Lys	Pro	Lys	Val
	210					215					220				
Glu	Glu	Leu	Asn	Val	Ile	Cys	Asn	Val	Ser	Gln	Phe	Ser	Val	Asn	Lys
225					230					235					240
Pro	Lys	Gly	Tyr	Lys	Gly	Val	Ala	Phe	Pro	Leu	Pro	Thr	Asp	Ala	Gly
				245					250					255	
Val	Ala	Thr	Ala	Thr	Gly	Thr	Lys	Ser	Ala	Thr	Ile	Asn	Tyr	His	Glu
			260					265					270		
Trp	Gln	Val	Gly	Ala	Ser	Leu	Ser	Tyr	Arg	Leu	Asn	Ser	Leu	Val	Pro
	275						280					285			
Tyr	Ile	Gly	Val	Gln	Trp	Ser	Arg	Ala	Thr	Phe	Asp	Ala	Asp	Asn	Ile
	290					295					300				
Arg	Ile	Ala	Gln	Pro	Lys	Leu	Pro	Thr	Ala	Val	Leu	Asn	Leu	Thr	Ala
305					310					315					320
Trp	Asn	Pro	Ser	Leu	Leu	Gly	Asn	Ala	Thr	Ala	Leu	Ser	Thr	Thr	Asp
				325					330					335	
Ser	Phe	Ser	Asp	Phe	Met	Gln	Ile	Val	Ser	Cys	Gln	Ile	Asn	Lys	Phe
			340					345					350		
Lys	Ser	Arg	Lys	Ala	Cys	Gly	Val	Thr	Val	Gly	Ala	Thr	Leu	Val	Asp
	355						360					365			
Ala	Asp	Lys	Trp	Ser	Leu	Thr	Ala	Glu	Ala	Arg	Leu	Ile	Asn	Glu	Arg
	370					375					380				
Ala	Ala	His	Val	Ser	Gly	Gln	Phe	Arg	Phe						
385					390										

<210> 698

<211> 299

<212> PRT

<213> Chlamydia pneumoniae

<400> 698

Asn	Ser	Gly	Phe	Tyr	Val	Arg	Met	Pro	Leu	Leu	Thr	Tyr	Ser	Asn	Phe
1				5					10					15	
Glu	Ile	Glu	Val	Gln	Ser	Leu	Glu	Ser	Gln	Ser	Cys	Lys	Leu	Thr	Ile
			20					25					30		
Lys	Asp	Leu	Met	Ser	Ala	Gly	Ala	His	Phe	Gly	His	Gln	Thr	Arg	Arg
	35						40					45			
Trp	Asn	Pro	Lys	Met	Lys	Leu	Tyr	Ile	Phe	Glu	Glu	Lys	Asn	Gly	Leu
	50					55					60				
Tyr	Ile	Ile	Asn	Leu	Ala	Lys	Thr	Leu	Gln	Gln	Leu	Arg	Asn	Ala	Leu
65					70					75					80

Pro	His	Ile	Arg	Lys	Val	Ile	Gln	Asp	Asn	Lys	Thr	Val	Leu	Phe	Val		
				85					90					95			
Gly	Thr	Lys	Lys	Gln	Ala	Lys	Cys	Val	Ile	Arg	Glu	Ala	Ala	Ile	Glu		
			100					105					110				
Ala	Gly	Glu	Phe	Phe	Ile	Ala	Glu	Arg	Trp	Leu	Gly	Gly	Met	Leu	Thr		
		115					120					125					
Asn	Met	Thr	Thr	Ile	Arg	Asn	Ser	Ile	Lys	Thr	Leu	Asp	Lys	Ile	Glu		
	130					135					140						
Lys	Asp	Leu	Ser	Arg	Asn	Gln	Ala	Tyr	Leu	Thr	Lys	Lys	Glu	Ala	Ala		
145					150					155					160		
Leu	Leu	Ala	Lys	Arg	His	Gln	Lys	Leu	Leu	Arg	Asn	Leu	Glu	Gly	Ile		
				165						170				175			
Arg	Tyr	Met	Lys	Lys	Ala	Pro	Gly	Leu	Leu	Val	Val	Val	Asp	Pro	Ser		
		180						185					190				
Tyr	Glu	Lys	Ile	Ala	Val	Ala	Glu	Ala	Lys	Lys	Leu	Gly	Ile	Pro	Val		
	195						200					205					
Leu	Ala	Leu	Val	Asp	Thr	Asn	Cys	Asp	Pro	Thr	Pro	Ile	Asp	His	Val		
	210					215					220						
Ile	Pro	Cys	Asn	Asp	Asp	Ser	Leu	Lys	Ser	Ile	Arg	Leu	Ile	Ile	Asn		
225					230					235					240		
Val	Ile	Lys	Glu	Asn	Ile	Ile	Glu	Ala	Lys	His	Lys	Leu	Gly	Ile	Glu		
				245					250					255			
Ile	Val	Ser	Pro	Val	Lys	Ser	Leu	Glu	Val	Pro	Asp	Leu	Ser	Ala	Phe		
		260						265					270				
Glu	Ser	Ser	Gln	Asp	Asp	Glu	Ser	Asp	Glu	Glu	Asn	Arg	Glu	Glu	Asp		
	275					280						285					
Leu	Leu	Ala	Lys	Lys	Phe	Asp	Gly	Glu	Ala	Asn							
	290					295											

<210> 699

<211> 287

<212> PRT

<213> Chlamydia pneumoniae

<400> 699

Trp	Arg	Gly	Lys	Leu	Met	Ser	Asp	Phe	Ser	Met	Glu	Thr	Leu	Lys	Thr		
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Leu	Arg	Gln	Gln	Thr	Gly	Val	Gly	Leu	Thr	Lys	Cys	Lys	Glu	Ala	Leu		
			20					25					30				
Glu	Ala	Cys	Gly	Gly	Asn	Leu	Glu	Ala	Val	Val	Tyr	Leu	Arg	Lys			
		35					40				45						
Leu	Gly	Leu	Ala	Ser	Ala	Gly	Lys	Lys	Glu	His	Arg	Glu	Thr	Lys	Glu		
	50					55				60							
Gly	Ile	Ile	Ala	Ala	Lys	Thr	Asp	Ala	Asn	Gly	Thr	Ala	Leu	Ile	Glu		
65					70				75					80			
Val	Asn	Val	Glu	Thr	Asp	Phe	Val	Ala	Asn	Asn	Ala	Val	Phe	Arg	Glu		
				85				90					95				
Phe	Val	Ser	Asn	Leu	Leu	Asn	Asp	Ile	Leu	Lys	Tyr	Lys	Val	Asp	Thr		
			100					105					110				
Val	Glu	Ala	Leu	Ser	Gln	Ala	Ala	Ser	Ser	Gln	Asp	Pro	Ser	Leu	Ser		
		115					120					125					
Val	Asp	Glu	Leu	Arg	Ala	Val	Thr	Met	Gln	Thr	Val	Gly	Glu	Asn	Ile		
	130					135					140						
Arg	Ile	Ser	Arg	Val	Ala	Tyr	Phe	Pro	Lys	Ala	Thr	Asn	Ser	Thr	Val		
145					150					155					160		
Gly	Ile	Tyr	Ser	His	Gly	Asn	Gly	Lys	Thr	Val	Ala	Leu	Thr	Met	Leu		
				165				170						175			
Ser	Gly	Ser	Ser	Thr	Ala	Asp	Ser	Leu	Ala	Lys	Asp	Ile	Ala	Met	His		
			180					185					190				
Val	Val	Ala	Ala	Gln	Pro	Gln	Phe	Leu	Ser	Lys	Glu	Ser	Val	Pro	Ala		
		195					200						205				

Glu	Ala	Ile	Ala	Lys	Glu	Lys	Glu	Val	Ile	Ala	Ser	Gln	Ile	Gln	Gly
210						215					220				
Lys	Pro	Gln	Glu	Val	Ile	Glu	Lys	Ile	Val	Thr	Gly	Lys	Leu	Asn	Thr
225					230					235					240
Phe	Phe	Gln	Glu	Ala	Cys	Leu	Leu	Glu	Gln	Pro	Phe	Ile	Lys	Asn	Ala
				245					250					255	
Asp	Leu	Ser	Ile	Gln	Ser	Leu	Ile	Asp	Asp	Phe	Ser	Lys	Thr	Ser	Gly
			260					265					270		
Ser	Ser	Val	Ala	Ile	Glu	Gln	Phe	Ile	Leu	Trp	Lys	Ile	Gly	Ala	
		275					280					285			

<210> 700  
 <211> 253  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 700															
Glu	Pro	Asn	Lys	Asn	Met	Ala	Lys	Gln	Thr	Arg	Arg	Val	Leu	Phe	Lys
1				5					10					15	
Ile	Ser	Gly	Glu	Ala	Leu	Ser	Lys	Asp	Ser	Ser	Asn	Arg	Ile	Asp	Glu
			20					25					30		
Met	Arg	Leu	Ser	Arg	Leu	Val	Ser	Glu	Leu	Arg	Ala	Val	Arg	Asn	Asn
		35					40					45			
Asp	Ile	Glu	Ile	Ala	Leu	Val	Ile	Gly	Gly	Gly	Asn	Ile	Leu	Arg	Gly
	50					55					60				
Leu	Ala	Glu	Gln	Lys	Glu	Leu	Gln	Ile	Asn	Arg	Val	Ser	Ala	Asp	Gln
65					70				75						80
Met	Gly	Met	Leu	Ala	Thr	Leu	Ile	Asn	Gly	Met	Ala	Val	Ala	Asp	Ala
				85				90						95	
Leu	Lys	Ala	Glu	Asp	Ile	Pro	Cys	Leu	Leu	Thr	Ser	Thr	Leu	Ser	Cys
			100					105					110		
Pro	Gln	Leu	Ala	Asp	Leu	Tyr	Thr	Pro	Gln	Lys	Ser	Ile	Glu	Ala	Leu
		115					120					125			
Asp	Gln	Gly	Lys	Ile	Leu	Ile	Cys	Thr	Thr	Gly	Ala	Gly	Ser	Pro	Tyr
	130					135					140				
Leu	Thr	Thr	Asp	Thr	Gly	Ala	Ala	Leu	Arg	Ala	Cys	Glu	Leu	Asn	Val
145					150					155					160
Asp	Val	Leu	Ile	Lys	Ala	Thr	Met	His	Val	Asp	Gly	Val	Tyr	Asp	Lys
				165				170						175	
Asp	Pro	Arg	Leu	Phe	Pro	Asp	Ala	Val	Lys	Tyr	Asp	Phe	Val	Ser	Tyr
			180					185					190		
Lys	Asp	Phe	Leu	Ser	Asn	Gln	Leu	Gly	Val	Met	Asp	Ala	Ser	Ala	Ile
		195					200					205			
Ser	Leu	Cys	Met	Asp	Ser	His	Ile	Pro	Ile	Arg	Val	Phe	Ser	Phe	Leu
	210					215					220				
Gln	His	Ser	Leu	Glu	Lys	Ala	Leu	Phe	Asp	Pro	Thr	Ile	Gly	Thr	Leu
225					230					235					240
Val	Ser	Glu	Asp	Val	Asn	His	Val	Cys	Ser	Pro	Arg	His			
				245					250						

<210> 701  
 <211> 181  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 701															
Thr	Met	Ser	Val	Leu	Gln	Asp	Thr	Glu	Lys	Lys	Met	Ala	Ala	Ala	Leu
1				5					10					15	
Asp	Phe	Phe	His	Lys	Glu	Val	Lys	Ser	Phe	Arg	Thr	Gly	Lys	Ala	His
			20					25					30		



Pro Ala Leu Val Glu Thr Val Val Val Asp Val Tyr Gly Thr Thr Met  
 35 40 45  
 Arg Leu Ser Asp Ile Ala Ser Ile Ser Val Ala Asp Leu Arg Gln Leu  
 50 55 60  
 Val Ile Ser Pro Tyr Asp Gly Asn Asn Ala Ser Ala Ile Ala Lys Gly  
 65 70 75 80  
 Ile Ile Ala Ala Asn Leu Asn Leu Gln Pro Glu Val Glu Gly Ser Ile  
 85 90 95  
 Ile Arg Ile Lys Val Pro Glu Pro Thr Ala Asp Tyr Arg Gln Glu Met  
 100 105 110  
 Ile Lys Gln Leu Arg Arg Lys Cys Glu Glu Ala Lys Ile Asn Val Arg  
 115 120 125  
 Asn Ile Arg Arg Glu Ala Asn Asp Lys Leu Lys Lys Asp Ser Ala Leu  
 130 135 140  
 Thr Glu Asp Val Val Lys Gly Asn Glu Lys Lys Ile Gln Glu Leu Thr  
 145 150 155 160  
 Asp Lys Phe Cys Lys Gln Leu Asp Glu Leu Thr Lys Gln Lys Glu Ala  
 165 170 175  
 Glu Ile Ala Ser Ile  
 180

<210> 702  
 <211> 172  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 702  
 Leu Met Val His Ser Pro Thr His Gln Cys Tyr His Cys Gln Gln Pro  
 1 5 10 15  
 Ala Thr Ile Cys Tyr Thr Glu Ile Asp Lys Asp Lys Val Ile Arg Ser  
 20 25 30  
 Tyr Val Cys Ala Thr Cys Pro Cys Pro Ser His Tyr Tyr Asn Asn Glu  
 35 40 45  
 His Leu Ser Leu Ser Lys Gly Val Gly Val Leu Thr Leu Glu Cys Gly  
 50 55 60  
 Asn Cys Lys Thr Val Trp His Ser Lys Gln Asp Asp Glu Gln Leu Leu  
 65 70 75 80  
 Gly Cys His Gln Cys Tyr Thr Asn Phe Lys Asn Gln Ile Thr Ser Lys  
 85 90 95  
 Leu Lys Ser Glu Arg Val Val Ser Ser Ser Phe Thr Met Glu Lys Gly  
 100 105 110  
 Gln Gly Ser Leu His Ile Gly Arg Ala Pro Gly Glu Ala Ser Asn Thr  
 115 120 125  
 Asn Pro Leu Leu Lys Leu Ile Ala Leu Asn Glu Ala Leu Gln Asp Thr  
 130 135 140  
 Leu Glu Arg Glu Asp Tyr Glu Gln Ala Ala Val Ile Arg Asp Gln Ile  
 145 150 155 160  
 Asn His Leu Lys Thr Lys Asn Pro Asp Asp Pro Ser  
 165 170

<210> 703  
 <211> 363  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 703  
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 1 5 10 15  
 Val Lys Arg Lys Glu Ser Pro Gln Ala Asn Lys Val Trp Pro Val Thr  
 20 25 30

Thr	Phe	Ser	Leu	Ala	Arg	Asn	Leu	Ser	Val	Ser	Lys	Phe	Leu	Pro	Cys
	35						40					45			
Leu	Ser	Lys	Glu	Gln	Lys	Leu	Glu	Ile	Leu	Gln	Phe	Ile	Thr	Ser	His
	50					55					60				
Phe	Asn	His	Ile	Glu	Gly	Phe	Gly	Glu	Phe	Ile	Val	Leu	Pro	Leu	Lys
65					70					75					80
Asp	Thr	Pro	Leu	Trp	Gln	Lys	Glu	Phe	Leu	Glu	His	Phe	Leu	Leu	
			85						90				95		
Pro	Tyr	Asp	Leu	Val	Gly	Asn	Pro	Glu	Gly	Glu	Ala	Leu	Val	Val	Ser
			100					105					110		
Arg	Ser	Gly	Asp	Phe	Leu	Ala	Ala	Ile	Asn	Phe	Gln	Asp	His	Leu	Val
		115					120					125			
Leu	His	Gly	Ile	Asp	Phe	Gln	Gly	Asn	Val	Glu	Lys	Thr	Leu	Asp	Gln
	130					135					140				
Leu	Val	Gln	Leu	Asp	Ser	Tyr	Leu	His	Ser	Lys	Leu	Ser	Phe	Ala	Phe
145					150					155					160
Ser	Ser	Glu	Phe	Gly	Phe	Leu	Thr	Thr	Asn	Pro	Lys	Asn	Cys	Gly	Thr
				165					170					175	
Gly	Leu	Lys	Ser	Gln	Cys	Phe	Leu	His	Ile	Pro	Ala	Leu	Leu	Tyr	Ser
			180					185					190		
Lys	Glu	Phe	Thr	Asn	Leu	Ile	Asp	Glu	Glu	Val	Glu	Ile	Ile	Thr	Ser
	195						200					205			
Ser	Leu	Leu	Leu	Gly	Val	Thr	Gly	Phe	Pro	Gly	Asn	Ile	Val	Val	Leu
	210					215					220				
Ser	Asn	Arg	Cys	Ser	Leu	Gly	Leu	Thr	Glu	Glu	Leu	Leu	Leu	Ser	Ser
225					230					235					240
Leu	Arg	Ile	Thr	Ala	Ser	Lys	Leu	Ser	Val	Ala	Glu	Val	Ala	Ala	Lys
				245					250					255	
Lys	Arg	Leu	Ser	Glu	Glu	Asn	Ser	Gly	Asp	Leu	Lys	Asn	Leu	Ile	Leu
			260					265					270		
Arg	Ser	Leu	Gly	Leu	Leu	Thr	His	Ser	Cys	Gln	Leu	Glu	Leu	Lys	Glu
	275						280						285		
Thr	Leu	Asp	Ala	Leu	Ser	Trp	Ile	Gln	Leu	Gly	Ile	Asp	Leu	Gly	Leu
	290					295					300				
Ile	Lys	Val	Thr	Glu	Asn	His	Pro	Leu	Trp	Asn	Pro	Leu	Phe	Trp	Gln
305					310					315					320
Ile	Arg	Arg	Ala	His	Leu	Ala	Leu	Gln	Lys	Gln	Ala	Glu	Asp	Ser	Arg
				325					330					335	
Asp	Leu	Gln	Lys	Asp	Thr	Ile	Ser	His	Leu	Arg	Ala	Ser	Val	Leu	Lys
			340					345					350		
Glu	Leu	Thr	Lys	Gly	Leu	Ser	Pro	Glu	Ser	Phe					
	355						360								

<210> 704

<211> 924

<212> PRT

<213> Chlamydia pneumoniae

<400> 704

Leu	Lys	Lys	Asn	Pro	Val	Lys	Thr	Val	Ile	Leu	Asn	Ile	Gly	Arg	Lys
1				5					10					15	
Ile	Leu	Gln	Gly	Ile	Lys	Lys	Lys	Lys	Lys	Lys	Ile	Gly	Ile	Leu	Ser
		20						25					30		
Gly	Leu	Phe	Phe	Leu	Asp	Leu	Val	Leu	Leu	Gly	Val	Ser	Ser	Gln	Arg
		35					40					45			
Pro	Thr	Glu	Thr	Ser	Ala	Asn	Val	Lys	His	Asn	Leu	Arg	Asp	Glu	Lys
	50					55					60				
Leu	Ala	Ala	Cys	Pro	Lys	Asn	Ser	Ala	Ala	Ser	Leu	Ser	Ala	Lys	Lys
65					70					75				80	
Ser	His	Thr	Lys	Lys	Thr	Thr	Pro	Gly	Ser	Ile	Pro	Ser	Lys	Val	Phe
			85						90					95	

Ser	Lys	Phe	Asp	Ala	Thr	Gln	Asp	Lys	Thr	Phe	Gln	Lys	Thr	Ser	Gly	
		100						105					110			
Ser	Ala	Phe	Pro	Ala	Lys	Pro	Thr	Thr	Leu	Lys	Glu	Leu	Glu	Glu	Arg	
		115					120					125				
Lys	Lys	Pro	Arg	Pro	Glu	Arg	Arg	Thr	Thr	Ala	Asp	Val	Lys	Arg	Ser	
	130					135					140					
Pro	Arg	Phe	Leu	Pro	Thr	Gln	Glu	Val	Glu	Glu	Pro	Val	Pro	Ala	Ala	
145					150					155					160	
Ser	Lys	Glu	Gln	Leu	Asp	Ser	Ile	Gln	Val	Trp	Glu	Glu	Lys	Gln	Asn	
			165					170						175		
Tyr	Ala	Arg	Arg	Ala	Val	Asn	Ala	Ile	Asn	Leu	Ser	Ile	Lys	Lys	Gln	
		180					185						190			
Leu	Glu	Glu	Gln	Thr	Ser	Thr	Val	Thr	Glu	Lys	Asp	Val	Gln	Pro	Lys	
	195						200					205				
Thr	Gln	Ala	Thr	Pro	His	Ala	Ser	Lys	Lys	Asn	Val	Ala	Ser	Pro	Ser	
	210					215					220					
Thr	Ser	Met	Pro	Gly	Ile	Glu	Lys	Ala	Ala	Thr	Thr	Val	Ala	Val	Pro	
225					230					235					240	
Gln	Asp	Lys	Ser	Glu	Glu	Glu	Lys	Val	Lys	Glu	Arg	Leu	Thr	Lys	Arg	
			245						250					255		
Glu	Leu	Thr	Cys	Glu	Asp	Leu	Lys	Asp	Asn	Gly	Tyr	Thr	Val	Asn	Phe	
		260						265					270			
Glu	Asp	Ile	Ser	Ile	Leu	Glu	Leu	Gln	Phe	Val	Ser	Lys	Ile	Ser		
	275						280					285				
Gly	Thr	Asn	Phe	Val	Phe	Asp	Ser	Asn	Asp	Leu	Gln	Phe	Asn	Val	Thr	
	290					295					300					
Ile	Val	Ser	His	Asp	Pro	Thr	Ser	Val	Asp	Asp	Leu	Ser	Thr	Ile	Leu	
305					310				315						320	
Leu	Gln	Val	Leu	Lys	Met	His	Asp	Leu	Lys	Val	Val	Glu	Gln	Gly	Asn	
			325						330					335		
Asn	Val	Leu	Ile	Tyr	Arg	Asn	Pro	His	Leu	Ser	Lys	Leu	Ser	Thr	Val	
		340					345						350			
Val	Thr	Asp	Ser	Ser	Leu	Lys	Glu	Thr	Cys	Glu	Ala	Val	Val	Val	Thr	
	355						360					365				
Arg	Val	Phe	Arg	Leu	Tyr	Ser	Val	Ser	Pro	Ser	Ala	Ala	Val	Asn	Ile	
	370					375					380					
Ile	Gln	Pro	Leu	Leu	Ser	His	Asp	Ala	Ile	Val	Ser	Ala	Ser	Glu	Ala	
385					390					395					400	
Thr	Arg	His	Val	Ile	Ile	Ser	Asp	Ile	Ala	Gly	Asn	Val	Asp	Lys	Val	
			405					410						415		
Ser	Asp	Leu	Leu	Ala	Ala	Leu	Asp	Cys	Pro	Gly	Thr	Ser	Val	Asp	Met	
		420					425						430			
Thr	Glu	Tyr	Glu	Val	Lys	Tyr	Ala	Asn	Pro	Ala	Ala	Leu	Val	Ser	Tyr	
	435						440					445				
Cys	Gln	Asp	Val	Leu	Gly	Thr	Leu	Ala	Glu	Asp	Asp	Ala	Phe	Gln	Met	
	450					455				460						
Phe	Ile	Gln	Pro	Gly	Thr	Asn	Lys	Ile	Phe	Val	Val	Ser	Ser	Pro	Arg	
465				470					475						480	
Leu	Ala	Asn	Lys	Ala	Glu	Gln	Leu	Leu	Lys	Ser	Leu	Asp	Val	Pro	Glu	
			485						490					495		
Met	Ala	His	Thr	Leu	Asp	Asp	Pro	Ala	Ser	Thr	Ala	Leu	Ala	Leu	Gly	
		500						505					510			
Gly	Thr	Gly	Thr	Thr	Ser	Pro	Lys	Ser	Leu	Arg	Phe	Phe	Met	Tyr	Lys	
	515						520					525				
Leu	Lys	Tyr	Gln	Asn	Gly	Glu	Val	Ile	Ala	Asn	Ala	Leu	Gln	Asp	Ile	
	530					535					540					
Gly	Tyr	Asn	Leu	Tyr	Val	Thr	Thr	Ala	Met	Asp	Glu	Asp	Phe	Ile	Asn	
545					550					555					560	
Thr	Leu	Asn	Ser	Ile	Gln	Trp	Leu	Glu	Val	Asn	Asn	Ser	Ile	Val	Ile	
			565						570					575		

Ile	Gly	Asn	Gln	Gly	Asn	Val	Asp	Arg	Val	Ile	Gly	Leu	Leu	Asn	Gly		
		580						585					590				
Leu	Asp	Leu	Pro	Pro	Lys	Gln	Val	Tyr	Ile	Glu	Val	Leu	Ile	Leu	Asp		
		595					600					605					
Thr	Ser	Leu	Glu	Lys	Ser	Trp	Asp	Phe	Gly	Val	Gln	Trp	Val	Ala	Leu		
		610				615					620						
Gly	Asp	Glu	Gln	Ser	Lys	Val	Ala	Tyr	Ala	Ser	Gly	Leu	Leu	Asn	Asn		
625					630					635					640		
Thr	Gly	Ile	Ala	Thr	Pro	Thr	Lys	Ala	Thr	Val	Pro	Pro	Gly	Thr	Pro		
				645					650						655		
Asn	Pro	Gly	Ser	Ile	Pro	Leu	Pro	Thr	Pro	Gly	Gln	Leu	Thr	Gly	Phe		
			660					665					670				
Ser	Asp	Met	Leu	Asn	Ser	Ser	Ser	Ala	Phe	Gly	Leu	Gly	Ile	Ile	Gly		
		675					680					685					
Asn	Val	Leu	Ser	His	Lys	Gly	Lys	Ser	Phe	Leu	Thr	Leu	Gly	Gly	Leu		
		690				695					700						
Leu	Ser	Ala	Leu	Asp	Gln	Asp	Gly	Asp	Thr	Val	Ile	Val	Leu	Asn	Pro		
705					710					715					720		
Arg	Ile	Met	Ala	Gln	Asp	Thr	Gln	Gln	Ala	Ser	Phe	Phe	Val	Gly	Gln		
				725					730						735		
Thr	Val	Pro	Tyr	Gln	Thr	Thr	Asn	Thr	Ile	Ile	Gln	Glu	Thr	Gly	Thr		
			740				745						750				
Val	Thr	Gln	Asn	Ile	Asp	Tyr	Glu	Asp	Ile	Gly	Val	Asn	Leu	Val	Val		
		755					760					765					
Thr	Ser	Thr	Val	Ala	Pro	Asn	Asn	Val	Val	Thr	Leu	Gln	Ile	Glu	Gln		
		770				775						780					
Thr	Ile	Ser	Glu	Leu	His	Ser	Ala	Ser	Gly	Ser	Leu	Thr	Pro	Val	Thr		
785					790					795					800		
Asp	Lys	Thr	Tyr	Ala	Ala	Thr	Arg	Leu	Gln	Ile	Pro	Asp	Gly	Cys	Phe		
				805					810					815			
Leu	Val	Met	Ser	Gly	His	Ile	Arg	Asp	Lys	Thr	Thr	Lys	Val	Val	Ser		
		820						825					830				
Gly	Val	Pro	Leu	Leu	Asn	Ser	Ile	Pro	Leu	Ile	Arg	Gly	Leu	Phe	Ser		
		835					840					845					
Arg	Thr	Ile	Asp	Gln	Arg	Gln	Lys	Arg	Asn	Ile	Met	Met	Phe	Ile	Lys		
		850				855					860						
Pro	Lys	Val	Ile	Ser	Ser	Phe	Glu	Glu	Gly	Thr	Arg	Val	Thr	Asn	Lys		
865					870					875					880		
Glu	Gly	Tyr	Arg	Tyr	Asn	Trp	Glu	Ala	Asp	Glu	Gly	Ser	Met	Gln	Val		
				885					890					895			
Ala	Pro	Arg	His	Ala	Pro	Glu	Cys	Gln	Gly	Pro	Pro	Ser	Leu	Gln	Ala		
			900					905					910				
Glu	Ser	Asp	Phe	Lys	Ile	Ile	Glu	Ile	Glu	Ala	Gln						
		915					920										

<210> 705

<211> 507

<212> PRT

<213> Chlamydia pneumoniae

<400> 705

Arg	Lys	Ile	Gly	Phe	Met	Asp	Cys	Arg	Gly	Gly	Ile	Pro	Leu	Pro	Glu		
1			5						10					15			
Pro	Gln	Val	Ile	Gly	Gly	Tyr	His	Val	Lys	Lys	Ile	Leu	Ser	Lys	Lys		
			20					25					30				
Leu	Arg	Ser	Arg	Val	Val	His	Gly	Leu	His	Pro	Glu	Thr	Arg	His	Ser		
		35				40						45					
Thr	Val	Ile	Lys	Val	Phe	Ser	Pro	Ser	Pro	Ser	Phe	Thr	Ser	Arg	Ser		
		50				55				60							
Val	Tyr	Asn	Phe	Leu	Lys	Glu	Ala	Gln	Ser	Leu	His	Gln	Ile	Thr	His		
65					70					75					80		

Pro	Asn	Ile	Val	Lys	Phe	His	Arg	Tyr	Gly	Lys	Trp	Gln	Asp	Cys	Leu		
				85					90					95			
Tyr	Ile	Ala	Met	Glu	Tyr	Ile	Glu	Gly	Ile	Ser	Leu	Arg	Glu	Tyr	Ile		
			100					105					110				
Leu	Ala	Gln	Phe	Ile	Ser	Leu	Pro	Gln	Ala	Ile	Asp	Ile	Ile	Phe	Asp		
			115				120					125					
Ile	Ala	Gln	Ala	Leu	Glu	His	Leu	His	Ser	Arg	Asn	Ile	Leu	His	Lys		
			130			135					140						
Asp	Ile	Lys	Pro	Glu	Asn	Ile	Leu	Ile	Thr	Pro	Gln	Gly	Lys	Ile	Lys		
145					150					155					160		
Leu	Ile	Asp	Phe	Gly	Leu	Ala	Asp	Trp	Asp	Thr	Glu	Ile	Gln	Arg	Ala		
				165				170						175			
His	Pro	Ser	Val	Ile	Gly	Thr	Pro	Tyr	Tyr	Met	Ser	Pro	Glu	Gln	Arg		
			180					185					190				
Gln	Gly	Glu	Ser	His	Ser	Pro	Ala	Ser	Asp	Ile	Tyr	Ala	Leu	Gly	Leu		
			195			200						205					
Leu	Ala	Tyr	Glu	Leu	Ile	Leu	Gly	His	Leu	Ser	Leu	Gly	Arg	Val	Phe		
			210			215					220						
Leu	Ser	Leu	Val	Pro	Glu	Arg	Ile	Ser	Lys	Ile	Leu	Ala	Lys	Ala	Leu		
225					230				235						240		
Gln	Pro	Ser	Pro	Asn	Asn	Arg	Tyr	Ser	Ser	Thr	Arg	Glu	Phe	Ile	Gln		
				245				250					255				
Asp	Ile	His	His	Tyr	Arg	Met	Ser	Gly	Asp	Met	Gln	Glu	Asp	Leu	Arg		
			260					265					270				
Ile	Lys	Asp	His	Thr	Val	Ala	Leu	Tyr	Glu	Gln	Leu	Gln	Thr	Gln	Arg		
			275				280					285					
Phe	Trp	Leu	Ala	Pro	Glu	Thr	Leu	Arg	Phe	Pro	Asp	Phe	Ile	Ser	Gly		
			290			295					300						
Val	Leu	Tyr	His	Gln	Gly	Tyr	Pro	Leu	Tyr	Pro	His	Ala	Tyr	Asp	Thr		
305					310				315						320		
Leu	Leu	Glu	Gly	Asp	Val	Phe	Asn	Leu	Trp	Leu	Gly	Tyr	Ser	Pro	Ile		
				325				330						335			
Ser	Asn	Ala	Thr	Ile	Ala	Leu	Ser	Val	Lys	Ser	Leu	Val	Cys	Gln			
			340				345					350					
Gln	Asp	Leu	Gln	Arg	Pro	Leu	Leu	Asp	Arg	Val	Cys	Glu	Ile	Asn	Glu		
			355			360						365					
Cys	Leu	Ile	Arg	Met	Lys	Ile	Pro	Ile	Asp	Glu	Met	Gly	Ile	Ser	Ile		
			370			375				380							
Leu	Cys	Leu	Glu	Ile	Ser	Lys	Glu	Asn	Lys	Glu	Leu	Ser	Trp	Ile	Ala		
385					390					395					400		
Cys	Gly	Lys	Thr	Val	Phe	Trp	Ile	Lys	Arg	Gln	Gly	Arg	Val	Val	Gln		
				405				410						415			
Asp	Phe	Glu	Ser	Phe	Ser	Pro	Gly	Leu	Gly	Lys	Ile	Thr	Ser	Leu	Gln		
			420				425						430				
Ile	Arg	Glu	Thr	Lys	Val	Ala	Trp	Glu	Ile	Gly	Asp	Glu	Ala	Val	Val		
			435			440						445					
Cys	Thr	Leu	Glu	Leu	Glu	Glu	Ser	Val	Ala	Ser	Leu	Lys	Thr	Leu	Ser		
			450			455					460						
Leu	Ala	Glu	Leu	Gln	Asp	Arg	Arg	Gln	Lys	Ala	Ile	Phe	Cys	Pro	Ile		
465					470					475					480		
Glu	Ser	Ile	His	Gly	Gly	Ile	Gln	Ser	Arg	Gln	His	Gly	Ser	Asn	Ser		
				485				490						495			
Pro	Ser	Thr	Leu	Ile	Ser	Leu	Lys	Arg	Ile	Arg							
			500					505									

<210> 706

<211> 374

<212> PRT

<213> Chlamydia pneumoniae

<400> 706

Arg	Tyr	Phe	Met	Ala	Val	Ala	Ala	Asp	Ser	Ser	Ala	Ser	Trp	Leu	Lys
1				5				10						15	
Ser	Arg	Asn	Asn	Phe	Leu	Ser	Ser	Leu	Gly	Lys	Thr	Glu	Glu	Gln	Val
		20						25					30		
Ala	Ala	Pro	Glu	Phe	Pro	Lys	Glu	Leu	Cys	Gln	His	Lys	Ile	Arg	Glu
		35					40					45			
Lys	Phe	Arg	Leu	Glu	Asp	Val	Gln	Val	Ser	Ile	Lys	Phe	Arg	Gly	Ser
	50					55					60				
Ile	Thr	Ala	Val	Glu	Ala	Thr	Lys	Glu	Phe	Gly	Val	His	Leu	Leu	Ile
65					70					75					80
Gln	Pro	Met	Val	Val	Gln	Pro	Trp	Glu	Val	Glu	Asn	Leu	Leu	Phe	Leu
			85					90						95	
Thr	Ser	Glu	Glu	Asp	Leu	Gln	Glu	Leu	Met	Val	Ala	Val	Phe	Asp	Asp
			100					105					110		
Ala	Ser	Leu	Ala	Ser	Tyr	Phe	Tyr	Glu	Lys	Asp	Lys	Leu	Leu	Gly	Phe
		115					120					125			
His	Tyr	Tyr	Phe	Val	Ala	Glu	Ala	Cys	Lys	Leu	Phe	Glu	Glu	Leu	Gln
	130					135					140				
Trp	Val	Pro	Ser	Leu	Ser	Ala	Lys	Val	Gly	Gly	Asp	Ala	Ile	Phe	Thr
145					150					155					160
Ala	Thr	Ser	Leu	Gln	Gly	Ser	Phe	Gln	Val	Val	Asp	Ile	Ser	Leu	Arg
			165					170						175	
Leu	Asp	Gly	Lys	Asn	Val	Arg	Cys	Arg	Leu	Leu	Leu	Pro	Glu	Asp	Thr
			180					185				190			
Phe	Gln	Ser	Cys	Gln	Lys	Phe	Phe	Ser	Gly	Leu	His	Asp	Glu	Ser	Asp
	195						200					205			
Leu	His	Asn	Ile	Asp	Gln	Thr	Gln	Gln	Ile	Ser	Leu	Ser	Val	Glu	Val
	210					215					220				
Gly	Tyr	Ser	Gln	Leu	Thr	Gln	Glu	Glu	Trp	His	Gln	Val	Val	Pro	Gly
225					230					235					240
Ser	Phe	Ile	Met	Leu	Asp	Ser	Cys	Leu	Tyr	Asp	Pro	Glu	Thr	Glu	Glu
			245					250						255	
Ser	Gly	Ala	Leu	Thr	Val	Gln	Lys	His	Gln	Phe	Phe	Gly	Gly	Arg	
		260					265					270			
Phe	Leu	Thr	Pro	Ser	Ser	Gly	Glu	Phe	Lys	Ile	Thr	Ser	Tyr	Pro	Asn
		275					280					285			
Leu	Thr	His	Glu	Asp	Pro	Pro	Leu	Pro	Glu	Asn	Pro	Gln	Ala	Ser	Ala
	290					295					300				
Ala	Pro	Leu	Pro	Gly	Tyr	Ser	Arg	Leu	Val	Val	Glu	Val	Ala	Arg	Tyr
305					310					315					320
Ser	Leu	Ala	Val	Ser	Glu	Phe	Ile	Lys	Leu	Asn	Leu	Gly	Ser	Ile	Leu
			325					330						335	
Ser	Leu	Gly	Asn	His	Pro	Ala	Tyr	Gly	Val	Asp	Ile	Ile	Leu	Asp	Gly
			340					345				350			
Ala	Lys	Val	Gly	Arg	Gly	Glu	Ile	Ile	Ala	Leu	Gly	Asp	Val	Leu	Gly
		355				360					365				
Ile	Arg	Val	Leu	Glu	Val										
	370														

<210> 707

<211> 281

<212> PRT

<213> Chlamydia pneumoniae

<400> 707

Phe	Met	Glu	Leu	Lys	Lys	Thr	Ala	Glu	Ser	Leu	Tyr	Ser	Ala	Lys	Thr
1				5					10					15	
Asp	Asn	His	Thr	Val	Tyr	Gln	Asn	Ser	Pro	Glu	Pro	Arg	Asp	Ser	Arg
			20					25					30		



<210> 709  
 <211> 444  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 709  
 Val Asn Met Asp Gln Leu Thr Thr Asp Phe Asp Thr Leu Met Ser Gln  
 1 5 10 15  
 Leu Gly Asp Val Asn Leu Thr Thr Val Gly Arg Ile Thr Glu Val  
 20 25 30  
 Val Gly Met Leu Ile Lys Ala Val Val Pro Asn Val Arg Val Gly Glu  
 35 40 45  
 Val Cys Leu Val Lys Arg Asn Gly Met Glu Pro Leu Val Thr Glu Val  
 50 55 60  
 Val Gly Phe Thr Gln Ser Phe Ala Phe Leu Ser Pro Leu Gly Glu Leu  
 65 70 75 80  
 Ser Gly Val Ser Pro Ser Ser Glu Val Ile Pro Thr Gly Leu Pro Leu  
 85 90 95  
 His Ile Arg Ala Gly Asn Gly Leu Leu Gly Arg Val Leu Asn Gly Leu  
 100 105 110  
 Gly Glu Pro Ile Asp Val Glu Thr Lys Gly Pro Leu Gln Asn Val Asp  
 115 120 125  
 Gln Thr Phe Pro Ile Phe Arg Ala Pro Pro Asp Pro Leu His Arg Ala  
 130 135 140  
 Lys Leu Arg Gln Ile Leu Ser Thr Gly Val Arg Cys Ile Asp Gly Met  
 145 150 155 160  
 Leu Thr Val Ala Arg Gly Gln Arg Ile Gly Ile Phe Ala Gly Ala Gly  
 165 170 175  
 Val Gly Lys Ser Ser Leu Leu Gly Met Ile Ala Arg Asn Ala Glu Glu  
 180 185 190  
 Ala Asp Val Asn Val Ile Ala Leu Ile Gly Glu Arg Gly Arg Glu Val  
 195 200 205  
 Arg Glu Phe Ile Glu Gly Asp Leu Gly Glu Glu Gly Met Lys Arg Ser  
 210 215 220  
 Val Ile Val Val Ser Thr Ser Asp Gln Ser Ser Gln Leu Arg Leu Asn  
 225 230 235 240  
 Ala Ala Tyr Val Gly Thr Ala Ile Ala Glu Tyr Phe Arg Asp Gln Gly  
 245 250 255  
 Lys Thr Val Val Leu Met Met Asp Ser Val Thr Arg Phe Ala Arg Ala  
 260 265 270  
 Leu Arg Glu Val Gly Leu Ala Ala Gly Glu Pro Pro Ala Arg Ala Gly  
 275 280 285  
 Tyr Thr Pro Ser Val Phe Ser Thr Leu Pro Arg Leu Leu Glu Arg Ser  
 290 295 300  
 Gly Ala Ser Asp Lys Gly Thr Ile Thr Ala Phe Tyr Thr Val Leu Val  
 305 310 315 320  
 Ala Gly Asp Asp Met Asn Glu Pro Val Ala Asp Glu Val Lys Ser Ile  
 325 330 335  
 Leu Asp Gly His Ile Val Leu Ser Asn Ala Leu Ala Gln Ala Tyr His  
 340 345 350  
 Tyr Pro Ala Ile Asp Val Leu Ala Ser Ile Ser Arg Leu Leu Thr Ala  
 355 360 365  
 Ile Val Pro Glu Glu Gln Arg Arg Ile Ile Gly Lys Ala Arg Glu Val  
 370 375 380  
 Leu Ala Lys Tyr Lys Ala Asn Glu Met Leu Ile Arg Ile Gly Glu Tyr  
 385 390 395 400  
 Arg Arg Gly Ser Asp Arg Glu Ile Asp Phe Ala Ile Asp His Ile Asp  
 405 410 415  
 Lys Leu Asn Arg Phe Leu Lys Gln Asp Ile His Glu Lys Thr Asn Tyr  
 420 425 430



Glu Glu Ala Ala Gln Gln Leu Arg Ala Ile Phe Arg  
 435 440

<210> 710

<211> 235

<212> PRT

<213> Chlamydia pneumoniae

<400> 710

Ala	Phe	Lys	Thr	Val	Lys	Arg	Phe	Phe	Cys	Phe	Met	Ile	Asp	Pro	Val
1				5					10					15	
Glu	Cys	Phe	Pro	Asn	Leu	Asp	Gly	Asp	Ala	Glu	Ala	Gln	Ser	Ile	Thr
			20				25						30		
Gln	Asn	Ser	Gly	Thr	Pro	Leu	Ala	Ser	Glu	Leu	Lys	Lys	Asp	Ile	Ser
		35					40					45			
Pro	Phe	Ala	Leu	Gly	Ser	Tyr	Ala	Ala	Pro	Lys	Asp	Thr	Thr	Leu	Val
	50					55					60				
Gln	Gly	Phe	Lys	Pro	Asn	Pro	Met	Ala	Met	Met	Gln	Asp	Gln	Asn	Ser
65					70					75				80	
Asn	Leu	Ile	Asp	Pro	Glu	Leu	Gln	Glu	Ala	Leu	Glu	Ser	Glu	Glu	Leu
				85					90					95	
Gln	Glu	Gln	Ile	Asn	Asn	Leu	Lys	Gly	Arg	Leu	Trp	Asp	Phe	Arg	Ser
			100					105					110		
Thr	Phe	Glu	Asp	Ser	Gln	Thr	Thr	Ala	Gln	Phe	Ala	Asp	Glu	His	Phe
		115					120					125			
Gln	Ala	Val	Gly	Val	Ile	Ile	Asp	Leu	Ile	Asn	Glu	Asp	Leu	Asn	Thr
		130					135				140				
Ile	Ala	Glu	His	Thr	Gln	Gln	Asp	Ala	Arg	Lys	Glu	Asp	Lys	Glu	Glu
145					150					155				160	
Gly	Ser	Val	Thr	Arg	Lys	Ile	Ile	Asp	Trp	Val	Ser	Ser	Gly	Glu	Glu
				165				170						175	
Val	Leu	Asn	Arg	Ala	Leu	Leu	Tyr	Phe	Ser	Asp	Arg	Asp	Gly	Asn	Arg
			180					185					190		
Glu	Ser	Leu	Ala	Asn	Phe	Leu	Lys	Val	Gln	Tyr	Ala	Val	Gln	Arg	Ala
		195					200					205			
Thr	Gln	Arg	Ala	Glu	Leu	Phe	Ala	Ser	Ile	Val	Gly	Thr	Ser	Val	Ser
		210				215					220				
Ser	Val	Lys	Thr	Ile	Met	Thr	Thr	Gln	Leu	Gly					
225					230					235					

<210> 711

<211> 154

<212> PRT

<213> Chlamydia pneumoniae

<400> 711

Tyr	Lys	Arg	Glu	Ile	Met	Ala	Asp	Leu	Glu	Val	Phe	Gln	Ala	Asp	Phe
1				5					10					15	
Ala	Leu	Leu	Phe	Glu	Ala	Gly	Leu	Leu	Ala	Ile	Lys	Gln	Gly	Asp	Glu
			20				25						30		
Asp	Ser	Ala	Arg	Lys	Leu	Phe	Gln	Ser	Leu	His	Ile	Leu	Asn	Pro	Asn
		35					40					45			
His	Tyr	Gly	His	Asp	Leu	Gly	Leu	Ala	Leu	Ile	Ser	Leu	His	Lys	Met
	50					55				60					
Asp	Leu	Phe	Asp	Ala	Glu	Glu	Arg	Leu	Ser	Ala	Leu	Ile	Lys	Gly	Asn
65					70					75				80	
Glu	Asp	Asn	Trp	Ser	Ile	Lys	Ala	Phe	Leu	Ser	Leu	Thr	His	Met	Leu
				85				90						95	
Ile	Val	Leu	His	Gln	Gly	Ser	Ser	Phe	Glu	Val	Arg	Arg	Glu	Ser	Leu
			100					105					110		

Glu Ser Cys Leu Lys Phe Ala Asp Gln Val Ile Ala Asn Cys Lys Ile  
115 120 125  
Glu Ser Thr Arg Ala Leu Ala Gln Ser Val Leu Asp Trp His Asp Thr  
130 135 140  
Leu Val Ala Lys Ser Ala Gly Pro Leu Gly  
145 150

<210> 712  
<211> 91  
<212> PRT  
<213> Chlamydia pneumoniae

<400> 712  
Arg Ser Arg Gly Glu Lys Ser Met Ala Thr Asn Lys Ser Cys Thr Ala  
1 5 10 15  
Phe Asp Phe Asn Lys Met Leu Asp Gly Val Cys Thr Tyr Val Lys Gly  
20 25 30  
Val Gln Gln Tyr Leu Thr Glu Leu Glu Thr Ser Thr Gln Gly Thr Val  
35 40 45  
Asp Leu Gly Thr Met Phe Asn Leu Gln Phe Arg Met Gln Ile Leu Ser  
50 55 60  
Gln Tyr Met Glu Ser Val Ser Asn Ile Leu Thr Ala Val Asn Thr Glu  
65 70 75 80  
Met Ile Thr Met Ala Arg Ala Val Lys Gly Ser  
85 90

<210> 713  
<211> 102  
<212> PRT  
<213> Chlamydia pneumoniae

<400> 713  
Thr Thr Ile Asn Asn Gln Val Leu Gly Phe Ile Asn Tyr Leu Tyr Leu  
1 5 10 15  
Gly Arg Tyr Ser Met Phe Asn Met Glu Asn Thr Ala Lys Glu Glu Lys  
20 25 30  
Asn Ser Gln Pro Leu Leu Asp Leu Glu Gln Asp Met Gln Asp His Asp  
35 40 45  
Arg Ala Gln Glu Leu Lys Ala Ser Val Gln Asp Lys Val His Lys Leu  
50 55 60  
His Ala Leu Leu Arg Glu Gly Ser Asp Lys Glu Ser Phe Gly Gln Gln  
65 70 75 80  
Gln Ser Leu Leu Ala Gly Tyr Val Ala Leu Gln Lys Val Leu Gly Arg  
85 90 95  
Ile Asn Arg Lys Met Ile  
100

<210> 714  
<211> 845  
<212> PRT  
<213> Chlamydia pneumoniae

<400> 714  
Met Ala Val Arg Leu Ile Val Asp Glu Gly Pro Leu Ser Gly Val Ile  
1 5 10 15  
Phe Val Leu Glu Asp Gly Ile Ser Trp Ser Ile Gly Arg Asp Ser Ser  
20 25 30  
Ala Asn Asp Ile Pro Ile Glu Asp Pro Lys Leu Gly Ala Ser Gln Ala  
35 40 45  
Ile Ile Asn Lys Thr Asp Gly Ser Tyr Tyr Ile Thr Asn Leu Asp Asp  
50 55 60

Thr	Ile	Pro	Ile	Val	Val	Asn	Gly	Val	Ala	Ile	Gln	Glu	Thr	Thr	Gln
65					70					75					80
Leu	Lys	Asn	Glu	Asp	Thr	Ile	Leu	Leu	Gly	Ser	Asn	Gln	Tyr	Ser	Phe
				85					90					95	
Leu	Ser	Asp	Glu	Phe	Asp	Pro	Gln	Asp	Leu	Val	Tyr	Asp	Phe	Asp	Ile
			100					105					110		
Pro	Glu	Glu	Asn	Phe	Ser	Asn	Asp	Ser	Gly	Asp	Leu	Ser	Asp	Ser	Asn
		115					120					125			
Glu	Gln	Gly	Lys	Asp	Leu	Glu	Pro	Arg	Gln	Thr	Ser	Glu	Thr	Asn	His
	130					135					140				
Ser	Pro	Lys	Pro	Lys	Glu	Lys	Leu	Thr	Lys	Asp	Gln	Gly	Ser	Ser	Asp
145					150					155					160
Pro	Ile	Thr	Ser	Gly	Asp	Gln	Glu	Leu	Ala	Asp	Ala	Phe	Leu	Ala	Ser
				165					170					175	
Ala	Lys	Ala	Glu	Lys	Asn	Gln	Pro	Arg	Ala	Lys	Val	Ala	Lys	Lys	Gly
			180					185					190		
Leu	Lys	Glu	Ser	Ser	Asn	Glu	Ser	Leu	Asn	Pro	Lys	Glu	Gln	Asn	Ala
		195				200						205			
Lys	Asp	Ser	Pro	Lys	Gly	Glu	Glu	Arg	Thr	Asn	Lys	Pro	Gln	Asn	Ala
	210					215					220				
Ile	Met	Glu	Asp	Asn	Gly	Ala	Ser	Pro	Arg	Gln	Asp	Pro	Gln	Pro	Lys
225					230					235					240
Ser	Ala	Glu	Pro	Ser	Leu	Lys	Asn	Thr	Ala	Arg	Asp	Glu	Thr	Pro	Leu
				245					250					255	
Lys	Glu	Asn	Lys	Pro	Val	Glu	Glu	Lys	Ala	Asn	Lys	Lys	Ala	Thr	Pro
		260					265						270		
Asp	Ser	Pro	Glu	Lys	Lys	Asp	Gln	Pro	Glu	Glu	Gly	Ser	Lys	Lys	Glu
		275					280					285			
Gly	Ser	Lys	Ile	Glu	Ala	Thr	Pro	Leu	Asp	Ser	Gln	Lys	Glu	Ser	Glu
	290					295					300				
Asp	Lys	Glu	Ala	Glu	Glu	Ala	Phe	Val	Gln	Glu	Glu	Glu	Glu	Asn	Leu
305					310					315					320
Thr	Glu	Asp	Asn	Lys	Glu	Asp	Ser	Asp	Ser	Ala	Ala	Asp	Ala	Asn	Asp
				325						330				335	
Asp	Thr	Ala	Ser	Asp	His	Thr	Ala	Glu	Asp	Asn	Lys	Glu	Thr	Pro	Lys
			340					345					350		
Lys	Val	Glu	Asn	Glu	Lys	Ser	Ala	Val	Leu	Ser	Pro	Phe	His	Val	Gln
		355					360					365			
Asp	Leu	Phe	Arg	Phe	Asp	Gln	Thr	Ile	Phe	Pro	Ala	Glu	Ile	Asp	Asp
	370					375					380				
Ile	Ala	Lys	Lys	Asn	Ile	Ser	Val	Asp	Leu	Thr	Gln	Pro	Ser	Arg	Phe
385					390					395					400
Leu	Leu	Lys	Val	Leu	Ala	Gly	Ala	Asn	Ile	Gly	Ala	Glu	Phe	His	Leu
				405					410					415	
Asp	Ser	Gly	Lys	Thr	Tyr	Ile	Leu	Gly	Thr	Asp	Pro	Thr	Thr	Cys	Asp
			420					425					430		
Ile	Val	Phe	Asn	Asp	Leu	Ser	Val	Ser	His	Gln	His	Ala	Lys	Ile	Thr
		435					440					445			
Val	Gly	Asn	Asp	Gly	Gly	Ile	Leu	Ile	Glu	Asp	Leu	Asp	Ser	Lys	Asn
	450					455					460				
Gly	Val	Ile	Val	Glu	Gly	Arg	Lys	Ile	Asp	Lys	Thr	Ser	Thr	Leu	Ser
465					470					475					480
Ser	Asn	Gln	Val	Val	Ala	Leu	Gly	Thr	Thr	Leu	Phe	Leu	Leu	Ile	Asp
				485					490					495	
His	His	Ala	Pro	Ala	Asp	Thr	Ile	Val	Ala	Ser	Leu	Ser	Pro	Asp	Asp
			500					505					510		
Tyr	Ser	Leu	Phe	Gly	Arg	Gln	Gln	Asp	Ala	Glu	Ala	Leu	Glu	Arg	Gln
		515					520					525			
Glu	Ala	Gln	Glu	Glu	Glu	Glu	Lys	Gln	Lys	Arg	Ala	Thr	Leu	Pro	Ala
	530					535					540				

Gly	Ser	Phe	Ile	Leu	Thr	Leu	Phe	Val	Gly	Gly	Leu	Ala	Ile	Leu	Phe
545					550					555					560
Gly	Ile	Gly	Thr	Ala	Ser	Leu	Phe	His	Thr	Lys	Glu	Val	Val	Pro	Leu
				565					570						575
Glu	Asn	Ile	Asp	Tyr	Gln	Glu	Asp	Leu	Ala	Gln	Val	Ile	Asn	Gln	Phe
			580					585						590	
Pro	Thr	Val	Arg	Tyr	Thr	Phe	Asn	Lys	Thr	Asn	Ser	Gln	Leu	Phe	Leu
		595					600					605			
Ile	Gly	His	Val	Lys	Asn	Ser	Thr	Asp	Lys	Ser	Glu	Leu	Leu	Tyr	Lys
	610					615					620				
Val	Asp	Ala	Leu	Ser	Phe	Val	Lys	Ser	Val	Asp	Asp	Asn	Val	Ile	Asp
625					630					635					640
Asp	Glu	Ala	Val	Trp	Gln	Glu	Met	Asn	Ile	Leu	Leu	Ser	Lys	Arg	Pro
			645						650						655
Glu	Phe	Lys	Gly	Ile	Ser	Met	His	Ser	Pro	Glu	Pro	Gly	Lys	Phe	Ile
			660					665						670	
Ile	Thr	Gly	Tyr	Val	Lys	Thr	Glu	Gln	Ala	Ala	Cys	Leu	Val	Asp	
		675					680					685			
Tyr	Leu	Asn	Ile	His	Phe	Asn	Tyr	Leu	Ser	Leu	Leu	Glu	Asn	Lys	Val
	690					695					700				
Val	Val	Glu	Thr	Gln	Met	Leu	Lys	Ala	Ile	Ala	Gly	His	Leu	Leu	Gln
705					710					715					720
Gly	Gly	Phe	Ala	Asn	Ile	His	Val	Ala	Phe	Val	Asn	Gly	Glu	Val	Ile
			725						730						735
Leu	Thr	Gly	Tyr	Val	Asn	Asn	Asp	Asp	Ala	Glu	Lys	Phe	Arg	Ala	Val
		740						745					750		
Val	Gln	Glu	Leu	Ser	Gly	Ile	Pro	Gly	Val	Arg	Leu	Val	Lys	Asn	Phe
		755					760					765			
Ala	Val	Leu	Leu	Pro	Ala	Glu	Glu	Gly	Ile	Ile	Asp	Leu	Asn	Leu	Arg
	770					775					780				
Tyr	Pro	Asn	Arg	Tyr	Arg	Val	Thr	Gly	Tyr	Ser	Arg	Tyr	Gly	Glu	Ile
785					790					795					800
Ser	Ile	Asn	Val	Val	Val	Asn	Gly	Arg	Ile	Leu	Thr	Arg	Gly	Asp	Val
			805						810					815	
Ile	Asp	Gly	Met	Thr	Val	Thr	Ser	Ile	Gln	Pro	Asn	Ala	Ile	Phe	Leu
			820					825					830		
Glu	Lys	Glu	Gly	Leu	Lys	Tyr	Lys	Ile	Asp	Tyr	Asn	Lys			
		835					840					845			

<210> 715

<211> 162

<212> PRT

<213> Chlamydia pneumoniae

<400> 715

Leu	Asp	Leu	Lys	Glu	Glu	Lys	Ala	Gly	Phe	Arg	Asn	Glu	Ile	Val	Ser
1				5					10					15	
Ile	Pro	Gln	Gly	Thr	Lys	Thr	Thr	Ile	Ala	Ala	Leu	Glu	Asn	Thr	Ser
			20					25					30		
Met	Leu	Glu	Lys	Leu	Ile	Lys	Asn	Phe	Ala	Thr	Tyr	Met	Gly	Ile	Thr
		35					40					45			
Ser	Thr	Leu	Glu	Leu	Asp	Ala	Asp	Gly	Ala	Tyr	Val	Leu	Pro	Ile	Ser
		50				55					60				
Glu	Val	Val	Lys	Val	Arg	Ala	Gln	Gln	Asn	Ala	Asp	Asn	Glu	Ile	Val
65					70					75					80
Leu	Ser	Ala	Ser	Leu	Gly	Ala	Leu	Pro	Pro	Ser	Ala	Asp	Thr	Ala	Lys
			85						90					95	
Leu	Tyr	Leu	Gln	Met	Met	Ile	Gly	Asn	Leu	Phe	Gly	Arg	Glu	Thr	Gly
			100					105					110		
Gly	Ser	Ala	Leu	Gly	Leu	Asp	Ser	Glu	Gly	Asn	Val	Val	Met	Val	Arg
		115					120						125		

Arg Phe Ser Gly Asp Thr Thr Tyr Asp Asp Phe Val Arg His Val Glu  
 130 135 140  
 Ser Phe Met Asn Phe Ser Glu Thr Trp Leu Ser Asp Leu Gly Leu Gly  
 145 150 155 160  
 Lys Gln

<210> 716  
 <211> 345  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 716  
 Asn Tyr Arg Ile Val Leu Met Val Leu Gly Val Val Gly Ile Ser Tyr  
 1 5 10 15  
 Arg Glu Ala Ala Leu Lys Glu Arg Glu Arg Ala Ile Gln Tyr Leu Gln  
 20 25 30  
 Ser Phe Glu Lys Asn Leu Phe Leu Ala Gln Arg Phe Leu Gly Lys Gly  
 35 40 45  
 Gly Ala Phe Ile Pro Leu Leu Thr Cys His Arg Ala Glu Leu Tyr Tyr  
 50 55 60  
 Tyr Ser Glu Ser Pro Glu Ile Ala Gln Ala Ala Leu Leu Ser Glu Leu  
 65 70 75 80  
 Thr Ser Gln Gly Ile Arg Pro Tyr Arg His Arg Gly Leu Ser Cys Phe  
 85 90 95  
 Thr His Leu Phe Gln Val Thr Ser Gly Ile Asp Ser Leu Ile Phe Gly  
 100 105 110  
 Glu Thr Glu Ile Gln Gly Gln Val Lys Arg Ala Tyr Leu Lys Gly Ser  
 115 120 125  
 Lys Glu Arg Glu Leu Pro Phe Asp Leu His Phe Leu Phe Gln Lys Ala  
 130 135 140  
 Leu Lys Glu Gly Lys Glu Tyr Arg Ser Arg Ile Gly Phe Pro Asp His  
 145 150 155 160  
 Gln Val Thr Ile Glu Ser Val Val Gln Glu Ile Leu Leu Ser Tyr Asp  
 165 170 175  
 Lys Ser Ile Tyr Thr Asn Phe Leu Phe Val Gly Tyr Ser Asp Ile Asn  
 180 185 190  
 Arg Lys Val Ala Ala Tyr Leu Tyr Gln His Gly Tyr His Arg Ile Thr  
 195 200 205  
 Phe Cys Ser Arg Gln Gln Val Thr Ala Pro Tyr Arg Thr Leu Ser Arg  
 210 215 220  
 Glu Thr Leu Ser Phe Arg Gln Pro Tyr Asp Val Ile Phe Phe Gly Ser  
 225 230 235 240  
 Ser Glu Ser Ala Ser Gln Phe Ser Asp Leu Ser Cys Glu Ser Leu Ala  
 245 250 255  
 Ser Ile Pro Lys Arg Ile Val Phe Asp Phe Asn Val Pro Arg Thr Phe  
 260 265 270  
 Leu Trp Lys Glu Thr Pro Thr Gly Phe Val Tyr Leu Asp Ile Asp Phe  
 275 280 285  
 Ile Ser Glu Cys Val Gln Lys Arg Leu Gln Cys Thr Lys Glu Gly Val  
 290 295 300  
 Asn Lys Ala Lys Leu Leu Thr Cys Ala Ala Lys Lys Gln Trp Glu  
 305 310 315 320  
 Ile Tyr Glu Lys Lys Ser Ser His Ile Thr Gln Arg Gln Ile Ser Ser  
 325 330 335  
 Pro Arg Ile Pro Ser Val Leu Ser Tyr  
 340 345

<210> 717  
 <211> 609  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 717  
 Lys Phe Asn Lys Ile Ser His Met Ala Ala Tyr Thr Glu Ala Ser Ile  
 1 5 10 15  
 Leu Ser Leu Ala Ser Leu Asp His Ile Arg Leu Arg Ala Gly Met Tyr  
 20 25 30  
 Ile Gly Arg Leu Gly Asn Gly Ser Gln Lys Glu Asp Gly Ile Tyr Thr  
 35 40 45  
 Leu Phe Lys Glu Val Val Asp Asn Gly Ile Asp Glu Phe Ile Met Gly  
 50 55 60  
 His Gly Lys Ser Leu Lys Ile Ser Ala Ser Asp Lys Gln Ile Ser Ile  
 65 70 75 80  
 Gln Asp Gln Gly Arg Gly Ile Pro Leu Gly Lys Leu Ile Asp Cys Val  
 85 90 95  
 Ser Lys Ile Asn Thr Gly Ala Lys Tyr Thr Gln Asp Val Phe His Phe  
 100 105 110  
 Ser Val Gly Leu Asn Gly Val Gly Leu Lys Ala Val Asn Ala Leu Ser  
 115 120 125  
 Glu Ile Phe Ser Val Arg Ser Val Arg Lys Lys Lys Tyr His Leu Ala  
 130 135 140  
 Thr Phe His Arg Gly Val Leu Gln Glu Ser Lys Gln Gly Ser Thr Lys  
 145 150 155 160  
 Asp Pro Asp Gly Thr Phe Val Ser Phe Thr Pro Asp Pro Ser Ile Phe  
 165 170 175  
 Pro Glu Phe Thr Phe Asn His Asp Phe Leu Lys Asp Lys Ile Arg Gln  
 180 185 190  
 Tyr Thr Tyr Leu His Ser Gly Leu Glu Ile Arg Phe Asn Asp Glu Val  
 195 200 205  
 Phe Ile Ser His Asn Gly Leu Lys Asp Leu Phe Asp Ala Glu Ile Thr  
 210 215 220  
 Glu Pro Pro Leu Tyr Ser Pro Leu Phe Phe Gln Asn Glu Asp Leu Thr  
 225 230 235 240  
 Phe Ile Phe Ser His Leu Glu Gly Asn Thr Glu Arg Tyr Phe Ser Phe  
 245 250 255  
 Val Asn Gly Gln Glu Thr Leu Asp Gly Gly Thr His Leu Thr Ala Phe  
 260 265 270  
 Lys Glu Ala Ile Val Lys Gly Val Asn Glu Phe Phe Gly Lys Thr Phe  
 275 280 285  
 Val Ser Asn Asp Ile Arg Glu Gly Ile Val Gly Cys Ile Ala Ile Lys  
 290 295 300  
 Ile Ala Ser Pro Ile Phe Glu Ser Gln Thr Lys Asn Lys Leu Gly Asn  
 305 310 315 320  
 Thr Gln Ile Arg Ser Ser Leu Ile Lys Asp Val Lys Glu Ala Ile Val  
 325 330 335  
 Gln Ala Leu Arg Lys Asp Lys Val Ala Pro Glu Leu Leu Leu Glu Lys  
 340 345 350  
 Ile Lys Phe Asn Glu Lys Thr Arg Lys Asn Ile Gln Phe Ile Lys Gln  
 355 360 365  
 Asp Leu Lys Ser Lys Gln Lys Lys Val His Tyr Lys Ile Pro Lys Leu  
 370 375 380  
 Arg Asp Cys Lys Phe His Tyr Asn Asp Arg Ser Leu Tyr Gly Glu Ala  
 385 390 395 400  
 Ser Ser Ile Phe Leu Thr Glu Gly Glu Ser Ala Ser Ala Ser Ile Leu  
 405 410 415  
 Ala Ser Arg Asn Pro Leu Thr Gln Ala Val Phe Ser Leu Arg Gly Lys  
 420 425 430

Pro	Met	Asn	Val	Phe	Ser	Leu	Glu	Glu	Thr	Lys	Met	Tyr	Lys	Asn	Asp
		435					440					445			
Glu	Leu	Phe	Tyr	Leu	Ala	Thr	Ala	Leu	Gly	Ile	Thr	Gln	Asn	Glu	Ile
	450					455					460				
Gln	His	Leu	Arg	Tyr	Asn	Lys	Val	Ile	Leu	Ala	Thr	Asp	Ala	Asp	Val
465					470					475					480
Asp	Gly	Met	His	Ile	Arg	Asn	Leu	Leu	Ile	Thr	Phe	Phe	Leu	Lys	Thr
			485						490					495	
Leu	Leu	Pro	Leu	Val	Glu	Asn	Asn	His	Leu	Phe	Ile	Leu	Glu	Thr	Pro
		500					505						510		
Leu	Phe	Lys	Val	Arg	Asn	Lys	Thr	Thr	Thr	Leu	Tyr	Tyr	Tyr	Ser	Glu
	515						520					525			
Gln	Glu	Lys	Met	Gln	Ala	Leu	Gln	Gln	Phe	Gly	Lys	Lys	Asp	Ser	Ser
	530					535				540					
Leu	Glu	Ile	Thr	Arg	Phe	Lys	Gly	Leu	Gly	Glu	Ile	Ser	Pro	Lys	Glu
545					550					555					560
Phe	Ala	Ala	Phe	Ile	Gly	Pro	Glu	Ile	Arg	Leu	Thr	Pro	Val	Thr	Ile
			565					570						575	
Thr	Ser	Leu	Glu	Ser	Ile	Ser	Ser	Ile	Leu	Gln	Phe	Tyr	Met	Gly	Lys
		580						585					590		
Asn	Thr	Lys	Glu	Arg	Lys	Gln	Phe	Ile	Met	Asp	Asn	Leu	Ile	Thr	Asp
		595					600					605			
Phe															

<210> 718

<211> 479

<212> PRT

<213> Chlamydia pneumoniae

<400> 718

Phe	Met	Arg	Asp	Val	Ser	Glu	Leu	Phe	Arg	Thr	His	Phe	Met	His	Tyr
1				5					10					15	
Ala	Ser	Tyr	Val	Ile	Leu	Glu	Arg	Ala	Ile	Pro	His	Ile	Leu	Asp	Gly
		20						25					30		
Leu	Lys	Pro	Val	Gln	Arg	Arg	Leu	Leu	Trp	Thr	Leu	Phe	Leu	Met	Asp
	35						40					45			
Asp	Gly	Lys	Met	His	Lys	Val	Ala	Asn	Ile	Ala	Gly	Arg	Thr	Met	Ala
50					55						60				
Leu	His	Pro	His	Gly	Asp	Ala	Pro	Ile	Val	Glu	Ala	Leu	Val	Val	Leu
65				70					75						80
Ala	Asn	Lys	Gly	Tyr	Leu	Ile	Asp	Thr	Gln	Gly	Asn	Phe	Gly	Asn	Pro
			85					90						95	
Leu	Thr	Gly	Asp	Pro	His	Ala	Ala	Ala	Arg	Tyr	Ile	Glu	Ala	Arg	Leu
		100						105					110		
Ser	Pro	Leu	Ala	Arg	Glu	Thr	Leu	Phe	Asn	Thr	Asp	Leu	Ile	Ala	Phe
		115					120					125			
His	Asp	Ser	Tyr	Asp	Gly	Arg	Glu	Lys	Glu	Pro	Asp	Ile	Leu	Pro	Ala
	130				135						140				
Lys	Leu	Pro	Val	Leu	Leu	Leu	His	Gly	Val	Asp	Gly	Ile	Ala	Val	Gly
145				150						155					160
Met	Thr	Thr	Lys	Ile	Phe	Pro	His	Asn	Phe	Ala	Glu	Leu	Leu	Lys	Ala
			165						170					175	
Gln	Ile	Ala	Ile	Leu	Asn	Asp	Lys	Lys	Phe	Thr	Val	Phe	Pro	Asp	Phe
		180						185					190		
Pro	Ser	Gly	Gly	Leu	Met	Asp	Pro	Ser	Glu	Tyr	Gln	Asp	Gly	Leu	Gly
		195					200					205			
Ser	Ile	Thr	Leu	Arg	Ala	Ser	Ile	Asp	Ile	Ile	Asn	Asp	Lys	Thr	Leu
	210					215					220				
Val	Val	Lys	Gln	Ile	Cys	Pro	Gln	Ser	Thr	Thr	Glu	Thr	Leu	Ile	Arg
225					230					235					240

Ser	Ile	Glu	Asn	Ala	Ala	Lys	Arg	Gly	Thr	Ile	Lys	Ile	Asp	Thr	Ile	
				245					250						255	
Gln	Asp	Phe	Ser	Thr	Asp	Val	Pro	His	Ile	Glu	Ile	Lys	Leu	Pro	Lys	
			260					265							270	
Gly	Ser	Arg	Ala	Lys	Glu	Met	Leu	Pro	Leu	Leu	Phe	Glu	His	Thr	Glu	
			275				280						285			
Cys	Gln	Val	Ile	Leu	Tyr	Ser	Lys	Pro	Thr	Val	Ile	Tyr	Glu	Asn	Lys	
	290					295					300					
Pro	Val	Glu	Cys	Ser	Ile	Ser	Glu	Ile	Leu	Lys	Leu	His	Thr	Thr	Ala	
305					310					315					320	
Leu	Gln	Gly	Tyr	Leu	Glu	Lys	Glu	Leu	Leu	Leu	Leu	Gln	Glu	Gln	Leu	
				325					330						335	
Thr	Leu	Asp	His	Tyr	His	Lys	Thr	Leu	Glu	Tyr	Ile	Phe	Ile	Lys	His	
			340					345					350			
Lys	Leu	Tyr	Asp	Ser	Val	Arg	Glu	Val	Leu	Ala	Ile	Asn	Lys	Lys	Ile	
		355				360						365				
Ser	Ala	Asp	Asp	Leu	His	Gln	Ala	Val	Leu	His	Ala	Leu	Glu	Pro	Trp	
	370					375					380					
Leu	His	Glu	Leu	Ala	Thr	Pro	Val	Thr	Lys	Gln	Asp	Thr	Ser	Gln	Leu	
385					390					395					400	
Ala	Ser	Leu	Thr	Ile	Lys	Lys	Ile	Leu	Cys	Phe	Asn	Glu	Glu	Ala	Cys	
				405					410						415	
Thr	Lys	Glu	Leu	Ala	Ile	Glu	Lys	Lys	Gln	Ala	Ala	Ile	Gln	Lys		
			420				425						430			
Asp	Leu	Gly	Arg	Ile	Lys	Glu	Val	Thr	Val	Lys	Tyr	Leu	Lys	Gly	Leu	
		435				440						445				
Leu	Glu	Arg	His	Gly	His	Leu	Gly	Glu	Arg	Lys	Thr	Gln	Ile	Thr	Asn	
	450					455					460					
Phe	Lys	Thr	Ala	Lys	Thr	Ser	Ile	Leu	Lys	Gln	Gln	Thr	Leu	Ile		
465					470					475						

<210> 719  
 <211> 113  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 719

Ile	Arg	Ile	Lys	Phe	Ile	Asp	Thr	Ile	Thr	Ile	Val	Val	Arg	Met	Glu	
1				5					10					15		
Pro	Arg	His	Ile	Tyr	Ile	Arg	Lys	Pro	Glu	Thr	Pro	Lys	Ala	Pro	Asp	
			20					25					30			
Val	Glu	Lys	Pro	Gly	Val	Pro	Glu	Tyr	Met	Thr	Met	Ala	Asn	Thr	Pro	
		35					40					45				
Thr	Phe	Glu	Gly	Pro	Val	Lys	Thr	Leu	Asp	Gln	Leu	Arg	Arg	Ala	Leu	
	50					55					60					
Ile	Glu	Gln	Arg	Gly	Ala	Glu	Glu	Gly	Gln	Lys	Met	Tyr	Asp	Asn	Phe	
65					70					75					80	
Ile	Gln	Ser	Ile	Leu	Ile	Ser	Thr	Phe	Gly	Leu	Val	His	Lys	Asp	Met	
				85				90						95		
Asp	Arg	Ala	Gln	Lys	Ala	Ser	Lys	Arg	Met	Arg	Ser	Val	Tyr	Lys	Glu	
			100					105						110		

Gln

<210> 720  
 <211> 109  
 <212> PRT  
 <213> Chlamydia pneumoniae



<400> 720  
 Arg Ala Val Met Ser Phe Thr Tyr Phe Leu Ala Leu Pro Val Asp Arg  
 1 5 10 15  
 Leu Met Gln Glu Arg Phe Leu Cys Ser Pro Lys Arg Trp Ala Pro Phe  
 20 25 30  
 Ile Asn Ser Pro Leu Tyr Leu Thr Leu Ile Ala Asp His Asp Thr Pro  
 35 40 45  
 Tyr Leu Ala Lys Asn Leu Asp Lys Phe Pro Leu Pro Val Glu Gln Trp  
 50 55 60  
 Glu Lys Thr Val Leu His Val Ser Ser Leu Leu Lys Ser Ile Phe Leu  
 65 70 75 80  
 Cys Ser Asp Leu Ser Ser Leu Arg Leu Leu Ala Cys Thr Lys Phe Glu  
 85 90 95  
 Ile Leu Thr Leu Asn Asp Leu Tyr Cys Ala Gln Asn Ile  
 100 105

<210> 721

<211> 338

<212> PRT

<213> Chlamydia pneumoniae

<400> 721  
 Phe Asp Ile Lys Leu Val Lys Lys Val Ile Lys Ile Ser Met Lys Thr  
 1 5 10 15  
 Val Thr Ser Phe Thr Val Cys Lys Glu Asn Ser Gly Arg Leu Asp Lys  
 20 25 30  
 Tyr Leu Thr Glu Val His Pro Lys Tyr Ser Arg Ala Phe Tyr Gln Glu  
 35 40 45  
 His Ile Leu Ser Gly Leu Val Gln Ile Asn Gly Gln Ile Asn Thr Arg  
 50 55 60  
 Val Ala Thr Arg Leu Asn Cys Gly Asp Ile Val Thr Ile Asp Ile Gln  
 65 70 75 80  
 Glu Lys Glu Glu Leu Leu Glu Leu Leu Pro Glu Ala Ile Pro Leu Asp  
 85 90 95  
 Lys Val Tyr Glu Asp Gly Met Ile Leu Val Ile Asn Lys Pro Arg Asp  
 100 105 110  
 Met Val Val His Pro Ala Pro Gly His Phe His Gly Thr Leu Val His  
 115 120 125  
 Ala Leu Leu His Glu Ile Gly Glu Arg Leu Lys Glu Glu Phe Pro Glu  
 130 135 140  
 Glu Pro Trp Arg Pro Gly Ile Val His Arg Leu Asp Lys Asp Thr Ser  
 145 150 155 160  
 Gly Leu Ile Ile Thr Ala Lys Thr Arg Gln Ala Lys Lys Val Phe Ser  
 165 170 175  
 Glu Leu Phe Ser Thr Lys Arg Leu Lys Lys Ser Tyr Leu Ala Val Cys  
 180 185 190  
 Ile Gly Lys Pro Arg Ser Thr Thr Ile His Thr His Ile Ser Arg His  
 195 200 205  
 Gln Asn Lys Arg Lys Glu Met Thr Val Ser Ser Gln Gly Lys Glu Ala  
 210 215 220  
 Val Thr His Cys Gln Val Leu Ala Phe Asn Gly Lys Leu Ser Phe Val  
 225 230 235 240  
 Ala Leu Ser Pro Glu Thr Gly Arg Thr His Gln Leu Arg Val His Met  
 245 250 255  
 Lys His Leu Gly Thr Pro Ile Leu Gly Asp Pro Val Tyr Gly Ile Pro  
 260 265 270  
 Ser Met Asn Ser Ser Tyr Gly Leu Asp Lys Gln Gln Leu His Ala Tyr  
 275 280 285  
 Ser Val Asp Phe Thr His Pro Glu Thr Arg Gln Phe Cys Ser Leu Lys  
 290 295 300

Ala Gly Leu Pro Glu Asp Met Arg Ser Leu Leu Ile Lys Glu Phe Arg  
 305 310 315 320  
 Asn Glu Thr Thr Ile Leu Asn Lys Asn Leu Leu Glu Ser Ile Leu Lys  
 325 330 335  
 Glu Gln

<210> 722  
 <211> 82  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 722  
 Leu Arg Ile Thr Met Lys Glu Phe Leu Ala Tyr Ile Ile Lys Asn Leu  
 1 5 10 15  
 Val Asp Arg Pro Glu Glu Val Arg Ile Lys Glu Val Gln Gly Thr His  
 20 25 30  
 Thr Ile Ile Tyr Glu Leu Ser Val Ala Lys Pro Asp Ile Gly Lys Ile  
 35 40 45  
 Ile Gly Lys Glu Gly Arg Thr Ile Lys Ala Ile Arg Thr Leu Leu Val  
 50 55 60  
 Ser Val Ala Ser Arg Asn Asn Val Arg Val Ser Leu Glu Ile Met Glu  
 65 70 75 80  
 Glu Lys

<210> 723  
 <211> 273  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 723  
 Lys Arg Met Val Met Phe Asn Asn Lys Met Ile Leu Ile Ala Gly Pro  
 1 5 10 15  
 Cys Val Ile Glu Gly Glu Asp Ile Thr Leu Glu Ile Ala Gly Lys Leu  
 20 25 30  
 Gln Ser Ile Leu Ala Pro Tyr Ser Asp Arg Ile Gln Trp Phe Phe Lys  
 35 40 45  
 Ser Ser Tyr Asp Lys Ala Asn Arg Ser Ser Leu Asn Ser Phe Arg Gly  
 50 55 60  
 Pro Gly Leu Thr Glu Gly Leu Arg Ile Leu Ala Lys Val Lys Glu Thr  
 65 70 75 80  
 Phe Gly Val Gly Ile Leu Thr Asp Val His Thr Pro Gln Asp Ala Tyr  
 85 90 95  
 Ala Ala Ala Glu Val Cys Asn Ile Leu Gln Val Pro Ala Phe Leu Cys  
 100 105 110  
 Arg Gln Thr Asp Leu Leu Val Ala Thr Ala Glu Thr Gly Ala Ile Val  
 115 120 125  
 Asn Leu Lys Lys Gly Gln Phe Leu Ser Pro Trp Asp Met Glu Gly Pro  
 130 135 140  
 Ile Asn Lys Val Leu Ser Thr Gly Asn Asn Lys Ile Leu Leu Thr Glu  
 145 150 155 160  
 Arg Gly Cys Ser Phe Gly Tyr Asn Asn Leu Val Ser Asp Met Arg Ser  
 165 170 175  
 Ile Pro Val Leu Ser Arg Ser Gly Phe Pro Val Ile Phe Asp Ala Thr  
 180 185 190  
 His Ser Val Gln Leu Pro Gly Ala Leu Ser Thr Glu Ser Gly Gly Leu  
 195 200 205  
 Thr Glu Phe Val Pro Thr Leu Ser Arg Ala Ala Leu Ala Ala Gly Ala  
 210 215 220

His	Gly	Leu	Phe	Ile	Glu	Thr	His	Thr	Asn	Pro	Lys	Ile	Ala	Lys	Ser
225					230					235					240
Asp	Ala	Ala	Ser	Met	Leu	Ser	Leu	Glu	Glu	Phe	Ala	Ala	Leu	Leu	Pro
				245					250						255
Thr	Trp	Asp	Gln	Leu	Phe	Thr	Cys	Val	Ser	Ser	Phe	Asp	Met	Val	Ser
			260					265					270		
Ala															

<210> 724  
 <211> 166  
 <212> PRT  
 <213> Chlamydia pneumoniae

Tyr	Gly	Leu	Ser	Met	Thr	Lys	Phe	Leu	Tyr	Cys	Gly	Leu	Phe	Tyr	Ser
1				5					10					15	
Leu	Gly	Leu	Leu	Val	Leu	Ala	Phe	Gly	Thr	Met	Val	Ala	Ile	Ile	Gln
			20					25					30		
Val	Asp	Gln	Ile	Cys	Asp	Val	Ser	Cys	Met	Asn	Lys	His	Phe	Gln	Glu
		35					40					45			
Ser	Pro	Pro	Phe	Leu	Lys	Ile	Lys	Lys	Val	Asn	Val	Ser	Lys	Gln	Ile
	50					55					60				
Cys	Ser	Pro	Glu	Glu	Arg	Phe	Phe	His	Cys	Lys	Ile	Asp	Lys	Ser	Cys
65					70				75						80
Met	Glu	Leu	His	Phe	Pro	Gln	Ser	Ser	Tyr	Ser	Cys	Lys	Glu	Tyr	Leu
			85						90					95	
Thr	Arg	Ile	Ser	Gly	His	Ile	Leu	Thr	Gln	Asn	Phe	Glu	Lys	Gln	Met
			100					105					110		
Gln	Phe	Arg	Gly	Asn	Ser	Gly	Leu	Leu	Asn	Tyr	Gln	Asp	Gly	Ser	Leu
		115				120						125			
His	Val	Tyr	Asp	Cys	Arg	Phe	Gln	Val	Asp	Pro	Val	Pro	Gly	Tyr	Gly
	130					135				140					
Ser	Pro	Asp	Lys	Glu	Asp	Ser	Ser	Ser	Gly	Gly	Met	Lys	Thr	Leu	Tyr
145					150					155					160
Leu	Ser	Leu	Phe	Arg	Asn										
				165											

<210> 725  
 <211> 242  
 <212> PRT  
 <213> Chlamydia pneumoniae

Ala	Ser	Met	Pro	Ile	Leu	Ser	Val	Cys	Asn	Leu	Val	Lys	Lys	Tyr	Asn
1				5					10					15	
Lys	Lys	Pro	Val	Thr	Asn	Asp	Val	Ser	Phe	Gln	Ile	Asn	Pro	Gly	Glu
			20					25					30		
Ile	Val	Gly	Leu	Leu	Gly	Pro	Asn	Gly	Ala	Gly	Lys	Thr	Thr	Ala	Phe
		35					40					45			
Tyr	Leu	Thr	Val	Gly	Leu	Ile	Arg	Pro	Asp	Ser	Gly	Lys	Ile	Ile	Phe
	50					55					60				
Lys	Asn	Val	Asp	Val	Thr	Lys	Lys	Thr	Met	Asp	His	Arg	Ala	Arg	Leu
65					70				75						80
Gly	Ile	Gly	Tyr	Leu	Ala	Gln	Glu	Pro	Thr	Ile	Phe	Lys	Glu	Leu	Thr
			85					90					95		
Val	Gln	Asp	Asn	Leu	Ile	Cys	Ile	Leu	Glu	Ile	Ile	Tyr	Lys	Ala	Arg
			100					105					110		
Lys	Gln	Gln	Ser	His	Leu	Leu	Asn	Thr	Leu	Val	Asp	Asp	Leu	Gln	Leu
			115				120						125		

Gly	Ser	Cys	Leu	His	Lys	Lys	Ala	Gly	Thr	Leu	Ser	Gly	Gly	Glu	Arg
130						135					140				
Arg	Arg	Leu	Glu	Ile	Ala	Cys	Val	Leu	Ala	Leu	Asn	Pro	Ser	Val	Leu
145					150					155					160
Leu	Leu	Asp	Glu	Pro	Phe	Ala	Asn	Val	Asp	Pro	Leu	Val	Ile	Gln	Asn
				165					170					175	
Val	Lys	Tyr	Leu	Ile	Lys	Ile	Leu	Ala	Gly	Arg	Gly	Ile	Gly	Ile	Leu
			180					185					190		
Ile	Thr	Asp	His	Asn	Ala	Lys	Glu	Leu	Leu	Ser	Ile	Ala	Asp	Arg	Cys
		195					200					205			
Tyr	Leu	Ile	Ile	Asp	Gly	Lys	Ile	Phe	Phe	Glu	Gly	Ser	Ser	Ser	Gln
	210					215					220				
Met	Ile	Ser	Asn	Pro	Met	Val	Lys	Gln	His	Tyr	Leu	Gly	Asp	Ser	Phe
225					230					235					240
Ser	Tyr														

<210> 726

<211> 299

<212> PRT

<213> Chlamydia pneumoniae

<400> 726

Arg	Thr	Ser	Thr	Arg	Leu	Asp	Tyr	Arg	Ser	Gly	Cys	Ile	Leu	Ser	Lys
1				5					10					15	
Ile	Leu	Pro	Phe	Pro	Glu	Leu	Trp	Lys	Met	Leu	Leu	Gly	Phe	Leu	Cys
			20					25					30		
Asp	Cys	Pro	Cys	Ala	Ser	Trp	Gln	Cys	Ala	Ala	Val	Ala	Asn	Cys	Tyr
		35					40					45			
Asp	Ser	Val	Phe	Met	Ser	Arg	Pro	Glu	His	Lys	Pro	Asn	Ile	Pro	Tyr
		50				55					60				
Ile	Thr	Lys	Ala	Thr	Arg	Arg	Gly	Leu	Arg	Met	Lys	Thr	Leu	Ala	Tyr
65					70					75					80
Leu	Ala	Ser	Leu	Lys	Asp	Ala	Arg	Gln	Leu	Ala	Tyr	Asp	Phe	Leu	Lys
				85				90						95	
Asp	Pro	Gly	Ser	Leu	Ala	Arg	Leu	Ala	Lys	Ala	Leu	Ile	Ala	Pro	Lys
			100					105					110		
Glu	Ala	Leu	Gln	Glu	Gly	Asn	Leu	Phe	Phe	Tyr	Gly	Cys	Ser	Asn	Ile
			115				120					125			
Glu	Asp	Ile	Leu	Glu	Glu	Met	Arg	Arg	Pro	His	Arg	Ile	Leu	Leu	Leu
			130			135					140				
Gly	Phe	Ser	Tyr	Cys	Gln	Lys	Pro	Lys	Ala	Cys	Pro	Glu	Gly	Arg	Phe
145					150					155					160
Asn	Asp	Ala	Cys	Arg	Tyr	Asp	Pro	Ser	His	Pro	Thr	Cys	Ala	Ser	Cys
				165					170					175	
Ser	Ile	Gly	Thr	Met	Met	Arg	Leu	Asn	Ala	Arg	Arg	Tyr	Thr	Thr	Val
			180					185					190		
Ile	Ile	Pro	Thr	Phe	Ile	Asp	Ile	Ala	Lys	His	Leu	His	Thr	Leu	Lys
		195					200					205			
Lys	Arg	Tyr	Pro	Gly	Tyr	Gln	Ile	Leu	Phe	Ala	Val	Thr	Ala	Cys	Glu
	210					215					220				
Leu	Ser	Leu	Lys	Met	Phe	Gly	Asp	Tyr	Ala	Ser	Val	Met	Asn	Leu	Lys
225					230					235					240
Gly	Val	Gly	Ile	Arg	Leu	Thr	Gly	Arg	Ile	Cys	Asn	Thr	Phe	Lys	Ala
				245					250					255	
Phe	Lys	Leu	Ala	Glu	Arg	Gly	Val	Lys	Pro	Gly	Val	Thr	Ile	Leu	Glu
			260					265					270		
Glu	Asp	Gly	Phe	Glu	Val	Leu	Ala	Arg	Ile	Leu	Thr	Glu	Tyr	Ser	Ser
		275					280					285			
Ala	Pro	Phe	Pro	Arg	Asp	Phe	Cys	Glu	Ile	His					
	290					295									

<210> 727  
 <211> 81  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 727  
 Ser Cys Gly Asp Val Gly Met Phe Phe Ala Pro Leu Leu Tyr Glu Ser  
 1 5 10 15  
 Leu Arg Arg Gly Leu Met His Pro Thr Ser His Met Gln Gln Leu  
 20 25 30  
 Ala Arg Leu Glu Phe Ile Asn Asp Gln Leu Thr Thr Glu Leu Glu His  
 35 40 45  
 Val Asn Glu Leu Leu Cys Ser Leu Gly Phe Pro Glu Gly Leu Thr Thr  
 50 55 60  
 Ile Lys Ala Ile Ala Glu Glu Val Leu Ser Asp Asp Glu Pro Leu Leu  
 65 70 75 80  
 Asp

<210> 728  
 <211> 835  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 728  
 Ala Asp Ile Asp Met Ile Tyr Ser Thr Ser Ile Ser Thr Phe Tyr Lys  
 1 5 10 15  
 Lys Leu Ser Leu Val Ser Ser Met His Ser Phe Ala Gln Arg His Arg  
 20 25 30  
 Glu Ser Leu Glu His Ile Ala Asn Tyr Glu Lys Thr Thr Ala Glu Arg  
 35 40 45  
 Asp Ile Leu Lys Arg Leu Ile Glu Val Leu Asp Gln Arg Ala Ser Glu  
 50 55 60  
 Arg Tyr Arg Ser Ala Val Glu Lys Leu His Lys Tyr Glu Val Glu Arg  
 65 70 75 80  
 Ala Thr Val Ala Lys Ser Ile Pro Val Ala Ala Ile His Glu Lys Pro  
 85 90 95  
 Leu Ser Ser Thr His Ala Ser Val Gln Val Thr Ala Ser Thr Pro Ala  
 100 105 110  
 Ala Thr Gly Ser Gly Val Gly Ala Tyr Tyr Asn Ala Val Lys Gln Lys  
 115 120 125  
 Trp Ala Gln Asp Leu Ile Val Glu Leu Asn Thr Val Met Thr Thr Ile  
 130 135 140  
 Met Ala Ser Val Asn Ser Lys Asn Pro Ala Asn Lys Asp Val Phe Asp  
 145 150 155 160  
 Lys Leu Asn Thr Glu Leu Gln Ala Leu Val Ala Ala Gly Asn Asn Leu  
 165 170 175  
 Thr Glu Glu Asn Phe Gln Thr Leu Tyr Asn Phe Pro Glu Glu Ile Phe  
 180 185 190  
 Thr Ala Ile Gln Arg Ala Asp Thr Phe Thr Gly Gly Met Lys Thr Asp  
 195 200 205  
 Phe Thr Asn Gln Leu Ala Gly Lys Tyr Gly Asn Gln Ala Thr Leu Thr  
 210 215 220  
 Gln Thr Phe Ala Asp Gly Arg Val Glu Gly Phe Lys Asp Ile Leu Thr  
 225 230 235 240  
 Ala Val Gln Gly Val Leu Thr Pro Glu Gln Phe Thr Ile Phe Ala Glu  
 245 250 255  
 Ile Ala Thr Glu Leu Gln Ala Leu Ala Asp His Val Gly Asn Phe Asp  
 260 265 270  
 Glu Ala Gly Leu Gln Arg Ile Glu Asp Ala Gly Glu Lys Leu Ala Ala  
 275 280 285

Val	Ile	Asn	Ser	Ser	Asp	Leu	Thr	Arg	Asn	Asp	Lys	Ile	Met	Phe	Cys
290						295					300				
Gln	His	Ile	Thr	Asp	Leu	Tyr	Ser	Asp	Gln	Val	Ala	Ala	Leu	Gly	Ser
305					310					315					320
Phe	Asp	Thr	Val	Leu	Asp	Ala	Ser	Ile	Tyr	Val	Asn	Gln	His	Gln	Gly
				325					330					335	
Thr	Met	Phe	Ser	Asn	Leu	Ser	Ser	Phe	Val	Gly	Ser	Leu	Ile	Gly	Thr
			340					345					350		
Phe	Ala	Pro	Ile	Asp	Leu	Ser	Ser	Gln	Gly	Asp	Ile	Ser	Ser	Ser	Ala
		355					360					365			
Ala	Leu	Ala	Gly	Ala	Leu	Gln	Thr	Ala	Arg	Gly	Leu	Asn	Ser	Arg	Phe
370						375						380			
Asn	Glu	Leu	Thr	Ala	Glu	Gln	Gln	Lys	Leu	Ile	Asn	Glu	Cys	Ile	Lys
385					390					395					400
Ser	Leu	Val	Thr	Phe	Lys	Cys	Gly	Glu	His	Leu	Gly	Ala	Ile	Trp	Ala
				405					410					415	
Tyr	Phe	Thr	Ala	Ser	Thr	Val	Val	Ala	Leu	Asn	Pro	Thr	Ala	Thr	Met
			420					425					430		
Asp	His	Val	Lys	Ala	Ala	Ile	Leu	Glu	Glu	Ala	Lys	Glu	Leu	Asp	Asn
		435					440					445			
Ser	Ser	Phe	Gln	Leu	Ala	Ser	Ser	Ile	Lys	Ser	Ala	Met	Thr	Ser	Ile
	450					455					460				
Val	Asn	Ser	Ser	Gly	Ser	Phe	Ser	Val	Thr	Val	Asn	Ser	Ser	Thr	Leu
465					470					475					480
Gln	Tyr	Thr	Ile	Tyr	Ser	Glu	Lys	Asn	Gly	Lys	Val	Glu	Ile	Asn	Gln
				485					490					495	
Ile	Leu	Leu	Asn	Tyr	Gly	Ser	Thr	Gly	Phe	Leu	Pro	Glu	Ile	Thr	Lys
			500					505					510		
Leu	Ala	Lys	Thr	Asn	Ala	Glu	Ser	Thr	Ala	Arg	Ser	Tyr	Phe	Arg	Phe
		515					520					525			
Lys	Ala	Leu	Ala	Ala	Val	Glu	Ser	Glu	Asn	Val	Gln	Asn	Lys	Ile	Glu
	530					535					540				
Asp	Leu	Gln	Ser	Gln	Leu	Gln	Gln	Phe	Thr	Asn	Met	Lys	Thr	Glu	Leu
545					550					555					560
Phe	Asp	Gly	Gln	Leu	Ser	Gln	Ala	Ser	Glu	Leu	Arg	Ala	Leu	Pro	
				565					570					575	
Leu	Pro	Ser	Ala	Val	Ala	Ser	Val	Leu	Ile	Asp	Arg	Tyr	Met	Pro	Lys
			580					585					590		
Glu	Val	Asp	Tyr	Leu	Asn	Glu	Ile	Tyr	Lys	Lys	Leu	Tyr	Tyr	Ser	Asn
		595					600					605			
Leu	Gly	Ser	Ser	Ile	Gly	Asn	Ser	Ile	Ile	Asp	Ala	Ile	Ser	Gln	Tyr
	610					615					620				
Val	Asn	Gly	Ala	Thr	Tyr	Phe	Asn	Phe	Ala	Ser	Tyr	Val	Gly	Gln	Gln
625					630					635					640
Pro	Ala	Val	Gly	Ala	Gly	Gly	Ala	Asn	Ala	Phe	Pro	Gly	Ser	Gln	Glu
				645					650					655	
Ser	Ala	Gln	Ala	Lys	Leu	Asp	Gln	Glu	Arg	Lys	Gln	Ala	Ala	Leu	Tyr
			660					665					670		
Leu	Gln	Glu	Thr	Arg	Gly	Ala	Leu	Thr	Val	Ile	Glu	Glu	Gln	Arg	Ala
			675				680					685			
Arg	Val	Leu	Lys	Asp	Asp	Lys	Ile	Thr	Asn	Glu	Gln	Arg	Ser	Thr	Ile
	690					695					700				
Leu	Asp	Ser	Leu	Arg	Asn	Tyr	Glu	Asp	Asn	Ile	Asn	Ser	Ile	Ser	Gly
705					710					715					720
Ser	Leu	Val	Leu	Leu	Gln	Asn	Tyr	Leu	Gln	Pro	Leu	Ser	Ile	Ala	Gly
				725					730					735	
Gly	Ser	Val	Ala	Gly	Thr	Phe	Glu	Val	Lys	Glu	Gly	Gln	Glu	Gln	Trp
			740					745					750		
Gln	Ala	Arg	Leu	Gln	Ile	Leu	Glu	Glu	Ala	Leu	Val	Ser	Gly	Leu	Val
		755					760						765		

Gly	Asn	Met	Ile	Asn	Gly	Gly	Met	Phe	Pro	Leu	Gln	Ser	Thr	Ile	Gln
770					775						780				
Ser	Asp	Gln	Gln	Ser	Phe	Ala	Asp	Met	Gly	Gln	Asn	Phe	Gln	Leu	Asp
785					790					795					800
Leu	Gln	Met	His	Leu	Thr	Ser	Met	Gln	Gln	Glu	Trp	Thr	Val	Val	Ala
			805						810					815	
Thr	Ser	Leu	Gln	Leu	Leu	Asn	Gln	Met	Tyr	Leu	Ser	Leu	Ala	Arg	Ser
			820					825					830		
Leu	Thr	Gly													
835															

<210> 729

<211> 878

<212> PRT

<213> Chlamydia pneumoniae

<400> 729

Lys	Tyr	Tyr	Leu	Phe	Ser	Met	Ser	Thr	Phe	Ser	Ile	Gln	Asn	Arg	Leu
1			5						10					15	
Arg	Thr	Ile	Ser	Gly	Glu	Ser	Thr	Arg	Ile	Ile	Lys	Leu	Asp	His	Lys
		20						25					30		
Tyr	Ser	Gly	Phe	Asp	Pro	Arg	Ser	Val	Pro	Ala	Ile	Asn	Leu	Glu	Glu
		35					40					45			
Leu	Asn	Ser	Gly	Ile	Tyr	Ala	Leu	Arg	His	Leu	Met	Asn	Ala	Leu	Gln
	50					55					60				
Ser	Glu	Asn	Thr	Asn	Val	Ala	Ala	Leu	Leu	Asn	Pro	Asn	Asn	Thr	Ile
65					70					75					80
Phe	Pro	Thr	Thr	Ser	Trp	Thr	Asp	Tyr	Lys	His	Ser	Arg	Pro	Gln	Ala
			85						90					95	
Ser	Ser	Pro	Arg	Ala	Pro	Ser	Ser	Gln	Thr	Pro	Thr	Asp	Ile	Val	Ser
			100					105					110		
Ala	Ala	Ala	Leu	Ala	Leu	Val	Leu	Val	Ile	Asp	Gly	Gly	Leu	Ala	Glu
		115					120					125			
Leu	Val	Ala	Ser	Val	Thr	Glu	Ile	Asp	Leu	Gly	Ala	Leu	Ser	Thr	Ile
		130				135					140				
Ser	Thr	Val	Arg	Gln	Leu	Met	Ala	Ser	Tyr	Leu	Gly	Leu	Thr	Thr	Leu
145					150					155					160
Thr	Ala	Glu	Gln	Glu	Lys	Val	Val	Phe	Ser	Ser	Ser	Tyr	Val	Pro	Ser
			165						170					175	
Glu	Lys	Asn	Leu	Leu	Glu	His	Val	Lys	Gln	Glu	Lys	Ala	Ala	Glu	Ile
		180						185					190		
Gln	Ala	Lys	Gln	Glu	Glu	Ile	Lys	Ala	Val	Leu	Glu	Ala	Lys	Gly	Val
		195					200					205			
Ser	Thr	Glu	Glu	Ile	Glu	Ala	Ile	Leu	Lys	Glu	Tyr	Pro	Asp	Ile	Tyr
	210					215					220				
Ala	Ala	Asp	Phe	Phe	Lys	Glu	Phe	Ile	Glu	Glu	Pro	Leu	His	Thr	Tyr
225					230					235					240
Arg	Ala	Lys	Val	Gly	Ala	Pro	Ile	Gln	Glu	Met	Asn	Glu	Asn	Ala	Ile
			245						250					255	
Gln	Leu	Leu	Pro	Thr	Pro	Pro	Ala	Ile	Thr	Pro	Asp	Asn	Val	Asn	Glu
		260						265					270		
Val	Asn	Gly	Met	Asn	Thr	Leu	Ser	Thr	Ile	Leu	Gln	Ala	Ile	Asp	Asp
		275					280					285			
Ala	Ile	Lys	Gln	Ala	Pro	Ala	Leu	Gly	Gly	Asp	Gln	Glu	Ile	Ile	Thr
	290					295					300				
Ile	Leu	Gln	Thr	Leu	Val	Pro	Leu	Val	Asp	Lys	Thr	Thr	Phe	Thr	Lys
305					310					315					320
Ala	Glu	Phe	Asp	Leu	Ile	Tyr	Thr	Ala	Thr	Gln	Leu	Pro	Asn	Thr	Ala
			325						330					335	
Ser	Leu	Lys	Leu	Tyr	Leu	Thr	Asp	Arg	Gln	Ile	Ala	Glu	Tyr	Arg	Gly
			340					345					350		

952



Thr	Ser	Gln	Gly	Gln	Thr	Gln	Gln	Leu	Asn	Leu	Gln	Asn	Gln	Met	Thr
		835					840					845			
Thr	Ile	Gln	Gln	Glu	Trp	Thr	Leu	Val	Ser	Thr	Ser	Met	Gln	Val	Leu
	850					855					860				
Asn	Gly	Ile	Leu	Ser	Gln	Leu	Ala	Gly	Ala	Ile	Tyr	Ser	Asn		
865					870					875					

<210> 730

<211> 653

<212> PRT

<213> Chlamydia pneumoniae

<400> 730

Val	Phe	Met	Val	Asn	Pro	Ile	Gly	Pro	Gly	Pro	Ile	Asp	Glu	Thr	Glu
1				5				10					15		
Arg	Thr	Pro	Pro	Ala	Asp	Leu	Ser	Ala	Gln	Gly	Leu	Glu	Ala	Ser	Ala
			20					25					30		
Ala	Asn	Lys	Ser	Ala	Glu	Ala	Gln	Arg	Ile	Ala	Gly	Ala	Glu	Ala	Lys
		35					40					45			
Pro	Lys	Glu	Ser	Lys	Thr	Asp	Ser	Val	Glu	Arg	Trp	Ser	Ile	Leu	Arg
	50					55					60				
Ser	Ala	Val	Asn	Ala	Leu	Met	Ser	Leu	Ala	Asp	Lys	Leu	Gly	Ile	Ala
65					70					75					80
Ser	Ser	Asn	Ser	Ser	Ser	Ser	Thr	Ser	Arg	Ser	Ala	Asp	Val	Asp	Ser
			85						90					95	
Thr	Thr	Ala	Thr	Ala	Pro	Thr	Pro	Pro	Pro	Pro	Thr	Phe	Asp	Asp	Tyr
			100					105					110		
Lys	Thr	Gln	Ala	Gln	Thr	Ala	Tyr	Asp	Thr	Ile	Phe	Thr	Ser	Thr	Ser
		115					120					125			
Leu	Ala	Asp	Ile	Gln	Ala	Ala	Leu	Val	Ser	Leu	Gln	Asp	Ala	Val	Thr
	130					135					140				
Asn	Ile	Lys	Asp	Thr	Ala	Ala	Thr	Asp	Glu	Glu	Thr	Ala	Ile	Ala	Ala
145					150					155					160
Glu	Trp	Glu	Thr	Lys	Asn	Ala	Asp	Ala	Val	Lys	Val	Gly	Ala	Gln	Ile
				165					170					175	
Thr	Glu	Leu	Ala	Lys	Tyr	Ala	Ser	Asp	Asn	Gln	Ala	Ile	Leu	Asp	Ser
			180					185					190		
Leu	Gly	Lys	Leu	Thr	Ser	Phe	Asp	Leu	Leu	Gln	Ala	Ala	Leu	Leu	Gln
	195						200					205			
Ser	Val	Ala	Asn	Asn	Asn	Lys	Ala	Ala	Glu	Leu	Leu	Lys	Glu	Met	Gln
	210					215						220			
Asp	Asn	Pro	Val	Val	Pro	Gly	Lys	Thr	Pro	Ala	Ile	Ala	Gln	Ser	Leu
225					230					235					240
Val	Asp	Gln	Thr	Asp	Ala	Thr	Ala	Thr	Gln	Ile	Glu	Lys	Asp	Gly	Asn
				245					250					255	
Ala	Ile	Arg	Asp	Ala	Tyr	Phe	Ala	Gly	Gln	Asn	Ala	Ser	Gly	Ala	Val
			260					265					270		
Glu	Asn	Ala	Lys	Ser	Asn	Asn	Ser	Ile	Ser	Asn	Ile	Asp	Ser	Ala	Lys
	275						280					285			
Ala	Ala	Ile	Ala	Thr	Ala	Lys	Thr	Gln	Ile	Ala	Glu	Ala	Gln	Lys	Lys
	290					295					300				
Phe	Pro	Asp	Ser	Pro	Ile	Leu	Gln	Glu	Ala	Glu	Gln	Met	Val	Ile	Gln
305					310					315					320
Ala	Glu	Lys	Asp	Leu	Lys	Asn	Ile	Lys	Pro	Ala	Asp	Gly	Ser	Asp	Val
				325					330					335	
Pro	Asn	Pro	Gly	Thr	Thr	Val	Gly	Gly	Ser	Lys	Gln	Gln	Gly	Ser	Ser
			340					345					350		
Ile	Gly	Ser	Ile	Arg	Val	Ser	Met	Leu	Leu	Asp	Asp	Ala	Glu	Asn	Glu
		355					360					365			
Thr	Ala	Ser	Ile	Leu	Met	Ser	Gly	Phe	Arg	Gln	Met	Ile	His	Met	Phe
370						375					380				

Asn	Thr	Glu	Asn	Pro	Asp	Ser	Gln	Ala	Ala	Gln	Gln	Glu	Leu	Ala	Ala	
385					390					395						400
Gln	Ala	Arg	Ala	Ala	Lys	Ala	Ala	Gly	Asp	Asp	Ser	Ala	Ala	Ala	Ala	
				405					410						415	
Leu	Ala	Asp	Ala	Gln	Lys	Ala	Leu	Glu	Ala	Ala	Leu	Gly	Lys	Ala	Gly	
			420					425					430			
Gln	Gln	Gln	Gly	Ile	Leu	Asn	Ala	Leu	Gly	Gln	Ile	Ala	Ser	Ala	Ala	
		435					440					445				
Val	Val	Ser	Ala	Gly	Val	Pro	Pro	Ala	Ala	Ala	Ser	Ser	Ile	Gly	Ser	
	450					455					460					
Ser	Val	Lys	Gln	Leu	Tyr	Lys	Thr	Ser	Lys	Ser	Thr	Gly	Ser	Asp	Tyr	
465					470					475					480	
Lys	Thr	Gln	Ile	Ser	Ala	Gly	Tyr	Asp	Ala	Tyr	Lys	Ser	Ile	Asn	Asp	
				485					490					495		
Ala	Tyr	Gly	Arg	Ala	Arg	Asn	Asp	Ala	Thr	Arg	Asp	Val	Ile	Asn	Asn	
			500					505					510			
Val	Ser	Thr	Pro	Ala	Leu	Thr	Arg	Ser	Val	Pro	Arg	Ala	Arg	Thr	Glu	
		515					520					525				
Ala	Arg	Gly	Pro	Glu	Lys	Thr	Asp	Gln	Ala	Leu	Ala	Arg	Val	Ile	Ser	
	530						535				540					
Gly	Asn	Ser	Arg	Thr	Leu	Gly	Asp	Val	Tyr	Ser	Gln	Val	Ser	Ala	Leu	
545					550					555					560	
Gln	Ser	Val	Met	Gln	Ile	Ile	Gln	Ser	Asn	Pro	Gln	Ala	Asn	Asn	Glu	
				565					570						575	
Glu	Ile	Arg	Gln	Lys	Leu	Thr	Ser	Ala	Val	Thr	Lys	Pro	Pro	Gln	Phe	
			580					585					590			
Gly	Tyr	Pro	Tyr	Val	Gln	Leu	Ser	Asn	Asp	Ser	Thr	Gln	Lys	Phe	Ile	
		595					600					605				
Ala	Lys	Leu	Glu	Ser	Leu	Phe	Ala	Glu	Gly	Ser	Arg	Thr	Ala	Ala	Glu	
	610					615					620					
Ile	Lys	Ala	Leu	Ser	Phe	Glu	Thr	Asn	Ser	Leu	Phe	Ile	Gln	Gln	Val	
625					630					635					640	
Leu	Val	Asn	Ile	Gly	Ser	Leu	Tyr	Ser	Gly	Tyr	Leu	Gln				
				645					650							

<210> 731

<211> 438

<212> PRT

<213> Chlamydia pneumoniae

<400> 731

Pro	Ala	Trp	Ser	Ser	Val	Ser	Thr	Leu	Asn	Ile	Asp	Thr	Lys	Asp	Thr	
1				5					10					15		
Met	Lys	Lys	Gln	Val	Tyr	Gln	Trp	Leu	Ala	Ser	Val	Val	Leu	Leu	Ala	
			20					25					30			
Leu	Thr	Ile	Ser	Gly	Tyr	Ala	Glu	Leu	Pro	Leu	Ser	Glu	Gln	Lys	Val	
		35					40					45				
Lys	Ser	His	Thr	Tyr	Thr	Thr	Leu	Asp	Glu	Val	Lys	Asp	Tyr	Leu	Ser	
	50					55					60					
Lys	Arg	Gly	Phe	Val	Glu	Thr	Arg	Lys	Gln	Asp	Gly	Val	Leu	Arg	Ile	
65					70					75					80	
Ala	Gly	Asp	Val	Arg	Ala	Arg	Trp	Leu	Tyr	Phe	Arg	Glu	Asp	Ile	Lys	
				85				90						95		
Asn	Pro	Ser	Asp	Lys	Asp	Lys	Tyr	Asn	Pro	Leu	Pro	Val	Asn	Arg	Tyr	
			100					105					110			
Arg	Ser	Glu	Phe	Tyr	Leu	Tyr	Ile	Asp	Tyr	Arg	Ala	Glu	Arg	Asn	Trp	
		115					120					125				
Leu	Ser	Ser	Lys	Met	Asn	Trp	Thr	Ala	Ile	Ala	Gly	Gly	Glu	Asn	Thr	
	130					135					140					
Ala	Ala	Gly	Val	Asp	Ile	Asn	Arg	Ala	Phe	Leu	Gly	Tyr	Arg	Phe	Tyr	
145					150					155					160	



Leu	Pro	Cys	Gly	Ile	Phe	Leu	Met	Met	Tyr	Asn	Val	Asn	Gly	Ala	Leu
145					150					155					160
Leu	His	Cys	Glu	Asn	Lys	Phe	Phe	Gly	Val	Gly	Leu	Ala	Pro	Val	Val
				165					170					175	
Val	Asn	Ile	Ile	Trp	Ile	Phe	Phe	Val	Ile	Ala	Ala	Arg	His	Ser	Asp
			180					185					190		
Pro	Arg	Glu	Arg	Ile	Ile	Gly	Leu	Ser	Val	Ala	Leu	Val	Ile	Gly	Phe
		195					200					205			
Phe	Phe	Glu	Trp	Leu	Ile	Thr	Val	Pro	Gly	Val	Trp	Lys	Phe	Leu	Leu
	210					215					220				
Glu	Ala	Lys	Ser	Pro	Pro	Gln	Glu	His	Asp	Ser	Val	Arg	Ala	Leu	Leu
225					230					235					240
Ala	Pro	Leu	Ser	Leu	Gly	Ile	Leu	Thr	Ser	Ser	Ile	Phe	Gln	Leu	Asn
				245					250					255	
Leu	Leu	Ser	Asp	Ile	Cys	Leu	Ala	Arg	Tyr	Val	His	Glu	Ile	Gly	Pro
			260					265					270		
Leu	Tyr	Leu	Met	Tyr	Ser	Leu	Lys	Ile	Tyr	Gln	Leu	Pro	Ile	His	Leu
	275						280					285			
Phe	Gly	Phe	Gly	Val	Phe	Thr	Val	Leu	Leu	Pro	Ala	Ile	Ser	Arg	Cys
	290					295					300				
Val	Gln	Arg	Glu	Asp	His	Glu	Arg	Gly	Leu	Lys	Leu	Met	Lys	Phe	Val
305					310					315					320
Leu	Thr	Leu	Thr	Met	Ser	Val	Met	Ile	Ile	Met	Thr	Ala	Gly	Leu	Leu
				325					330					335	
Leu	Leu	Ala	Leu	Pro	Gly	Val	Arg	Val	Leu	Tyr	Glu	His	Gly	Leu	Phe
		340					345						350		
Pro	Gln	Ser	Ala	Val	Tyr	Ala	Ile	Val	Arg	Val	Leu	Arg	Gly	Tyr	Gly
		355					360					365			
Ala	Ser	Ile	Ile	Pro	Met	Ala	Leu	Ala	Pro	Leu	Val	Ser	Val	Leu	Phe
	370					375					380				
Tyr	Ala	Gln	Arg	Gln	Tyr	Ala	Val	Pro	Leu	Phe	Ile	Gly	Ile	Gly	Thr
385					390					395					400
Ala	Leu	Ala	Asn	Ile	Val	Leu	Ser	Leu	Val	Leu	Gly	Arg	Trp	Val	Leu
			405						410					415	
Lys	Asp	Val	Ser	Gly	Ile	Ser	Tyr	Ala	Thr	Ser	Ile	Thr	Ala	Trp	Val
			420					425					430		
Gln	Leu	Tyr	Phe	Leu	Trp	Tyr	Tyr	Ser	Ser	Lys	Arg	Leu	Pro	Met	Tyr
		435					440					445			
Ser	Lys	Leu	Leu	Trp	Glu	Ser	Ile	Arg	Arg	Ser	Ile	Lys	Val	Met	Gly
	450					455					460				
Thr	Thr	Met	Leu	Ala	Cys	Met	Ile	Thr	Leu	Gly	Leu	Asn	Ile	Leu	Thr
465					470					475					480
Gln	Thr	Thr	Tyr	Val	Ile	Phe	Leu	Asn	Pro	Leu	Thr	Pro	Leu	Ala	Trp
				485					490					495	
Pro	Leu	Ser	Ser	Ile	Thr	Ala	Gln	Ala	Ile	Ala	Phe	Leu	Ser	Glu	Ser
			500					505					510		
Cys	Ile	Phe	Leu	Ala	Phe	Leu	Phe	Gly	Phe	Ala	Lys	Leu	Leu	Arg	Val
		515					520					525			
Glu	Asp	Leu	Ile	Asn	Leu	Ala	Ser	Phe	Glu	Tyr	Trp	Arg	Gly	Gln	Arg
	530					535					540				
Gly	Leu	Leu	Gln	Arg	Gln	His	Val	Met	Gln	Asp	Thr	Gln	Asn		
545					550					555					

<210> 733

<211> 90

<212> PRT

<213> Chlamydia pneumoniae

<400> 733

Val	Ala	Ile	Ala	Ile	Ser	Arg	Asn	Ile	Pro	Val	Ile	Arg	Leu	Gln	Lys
1					5				10					15	

Val	Pro	Asp	Asn	Ile	Leu	Lys	Ile	Glu	Arg	Ala	Lys	Glu	Thr	Ser	Leu
			20					25					30		
Met	Ser	Phe	Leu	Leu	Ile	Lys	Pro	Phe	Ser	Pro	Pro	Pro	Leu	Lys	Gln
		35					40					45			
Asp	Tyr	Leu	Phe	Asp	Ile	Ser	Pro	Tyr	Thr	Ser	Ser	Glu	Ile	Thr	Ile
	50					55					60				
Gly	Gly	Ser	Tyr	Phe	Lys	Leu	Asn	Lys	Ala	Ser	Leu	Gln	Ser	Ser	Thr
65					70					75					80
Leu	Arg	Leu	Arg	Ser	Ile	Ser	Ile	Ile	Ser						
				85					90						

<210> 734

<211> 295

<212> PRT

<213> Chlamydia pneumoniae

<400> 734

Asn	Phe	Met	Lys	Val	Leu	Pro	Pro	Pro	Ser	Ile	Pro	Leu	Leu	Gly	Ala
1				5					10					15	
His	Thr	Ser	Thr	Ala	Gly	Gly	Leu	Lys	Asn	Ala	Ile	Tyr	Glu	Gly	Arg
			20					25					30		
Asp	Ile	Gly	Ala	Ser	Thr	Val	Gln	Ile	Phe	Thr	Ala	Asn	Gln	Arg	Gln
		35					40					45			
Trp	Gln	Arg	Arg	Ala	Leu	Lys	Glu	Glu	Val	Ile	Glu	Asp	Phe	Lys	Ala
	50					55					60				
Ala	Leu	Lys	Glu	Thr	Asp	Leu	Ser	Tyr	Ile	Met	Ser	His	Ala	Gly	Tyr
65					70					75					80
Leu	Ile	Asn	Pro	Gly	Ala	Pro	Asp	Pro	Val	Ile	Leu	Glu	Lys	Ser	Arg
				85					90					95	
Ile	Gly	Ile	Tyr	Gln	Glu	Ile	Leu	Asp	Cys	Ile	Thr	Leu	Gly	Ile	Ser
			100					105					110		
Phe	Val	Asn	Phe	His	Pro	Gly	Ala	Ala	Leu	Lys	Ser	Ser	Lys	Glu	Asp
		115				120						125			
Cys	Met	Asn	Lys	Ile	Val	Ser	Ser	Phe	Ser	Gln	Ser	Ala	Pro	Leu	Phe
	130					135					140				
Asp	Ser	Ser	Pro	Pro	Leu	Val	Val	Leu	Leu	Glu	Thr	Thr	Ala	Gly	Gln
145					150					155					160
Gly	Thr	Leu	Ile	Gly	Ser	Asn	Phe	Glu	Glu	Leu	Gly	Tyr	Leu	Val	Gln
				165					170					175	
Asn	Leu	Lys	Asn	Gln	Ile	Pro	Ile	Gly	Val	Cys	Val	Asp	Thr	Cys	His
			180					185					190		
Ile	Phe	Ala	Ala	Gly	Tyr	Asp	Ile	Thr	Ser	Pro	Gln	Gly	Trp	Glu	Asp
		195					200					205			
Val	Leu	Asn	Glu	Phe	Asp	Glu	Tyr	Val	Gly	Leu	Ser	Tyr	Leu	Arg	Ala
	210					215					220				
Phe	His	Leu	Asn	Asp	Ser	Met	Phe	Pro	Leu	Gly	Ala	Asn	Lys	Asp	Arg
225					230					235					240
His	Ala	Pro	Leu	Gly	Glu	Gly	Tyr	Ile	Gly	Lys	Glu	Ser	Phe	Lys	Phe
				245						250				255	
Leu	Met	Thr	Asp	Glu	Arg	Thr	Arg	Lys	Ile	Pro	Lys	Tyr	Leu	Glu	Thr
			260					265					270		
Pro	Gly	Gly	Pro	Glu	Asn	Trp	Gln	Lys	Glu	Ile	Gly	Glu	Leu	Leu	Lys
		275					280					285			
Phe	Ser	Lys	Asn	Arg	Asp	Ser									
	290					295									

<210> 735

<211> 213

<212> PRT

<213> Chlamydia pneumoniae

<400> 735

Gly	Leu	Lys	Tyr	Met	Ala	Arg	Tyr	Cys	Gly	Pro	Lys	Asn	Arg	Val	Ala
1				5					10					15	
Arg	Arg	Phe	Gly	Ala	Asn	Ile	Phe	Gly	Arg	Ser	Arg	Asn	Pro	Leu	Leu
		20						25					30		
Lys	Lys	Pro	His	Pro	Pro	Gly	Gln	His	Gly	Met	Gln	Arg	Lys	Lys	Lys
		35					40					45			
Ser	Asp	Tyr	Gly	Leu	Gln	Leu	Glu	Glu	Lys	Gln	Lys	Leu	Lys	Ala	Cys
	50					55					60				
Tyr	Gly	Met	Ile	Met	Glu	Lys	Gln	Leu	Val	Lys	Ala	Phe	Lys	Glu	Val
65					70					75				80	
Ile	His	Lys	Gln	Gly	Asn	Val	Ala	Gln	Met	Phe	Leu	Glu	Arg	Phe	Glu
			85						90					95	
Cys	Arg	Leu	Asp	Asn	Met	Val	Tyr	Arg	Met	Gly	Phe	Ala	Lys	Thr	Ile
		100						105					110		
Phe	Ala	Ala	Gln	Gln	Leu	Val	Ala	His	Gly	His	Ile	Leu	Val	Asn	Gly
		115					120					125			
Arg	Arg	Val	Asp	Arg	Arg	Ser	Phe	Phe	Leu	Arg	Pro	Gly	Met	Gln	Ile
		130				135					140				
Ser	Leu	Lys	Glu	Lys	Ser	Lys	Arg	Leu	Gln	Ser	Val	Lys	Asp	Ala	Leu
145					150					155				160	
Glu	Ser	Lys	Asp	Glu	Ser	Ser	Leu	Pro	Ser	Tyr	Ile	Ser	Leu	Asp	Lys
			165						170					175	
Thr	Gly	Phe	Lys	Gly	Glu	Leu	Leu	Val	Ser	Pro	Glu	Gln	Asp	Gln	Ile
			180					185					190		
Glu	Ala	Gln	Leu	Pro	Leu	Pro	Ile	Asn	Ile	Ser	Val	Val	Cys	Glu	Phe
		195					200					205			
Leu	Ser	His	Arg	Thr											
		210													

<210> 736

<211> 351

<212> PRT

<213> Chlamydia pneumoniae

<400> 736

Gln	Asn	Thr	Lys	Glu	His	Phe	Ser	Ser	Asn	Gly	Asn	Phe	Leu	Gln	Cys
1				5					10					15	
Asn	Tyr	Phe	Gln	Asp	Tyr	Val	Arg	Val	Phe	Ile	Met	Glu	Lys	Lys	Tyr
		20						25					30		
Tyr	Ala	Leu	Ala	Tyr	Tyr	Tyr	Ile	Thr	Arg	Val	Asp	Asn	Pro	His	Glu
		35					40					45			
Glu	Ile	Ala	Leu	His	Lys	Lys	Phe	Leu	Glu	Asp	Leu	Asp	Val	Ser	Cys
	50					55					60				
Arg	Ile	Tyr	Ile	Ser	Glu	Gln	Gly	Ile	Asn	Gly	Gln	Phe	Ser	Gly	Tyr
65					70					75				80	
Glu	Pro	His	Ala	Glu	Leu	Tyr	Met	Gln	Trp	Leu	Lys	Glu	Arg	Pro	Asn
			85					90						95	
Phe	Ser	Lys	Ile	Lys	Phe	Lys	Ile	His	His	Ile	Lys	Glu	Asn	Ile	Phe
		100						105					110		
Pro	Arg	Ile	Thr	Val	Lys	Tyr	Arg	Lys	Glu	Leu	Ala	Ala	Leu	Gly	Cys
		115					120					125			
Glu	Val	Asp	Leu	Ser	Lys	Gln	Ala	Lys	His	Ile	Ser	Pro	Gln	Glu	Trp
		130				135					140				
His	Glu	Lys	Leu	Gln	Glu	Asn	Arg	Cys	Leu	Ile	Leu	Asp	Val	Arg	Asn
145					150					155				160	
Asn	Tyr	Glu	Trp	Lys	Ile	Gly	His	Phe	Asp	Asn	Ala	Thr	Leu	Pro	Asp
			165						170					175	
Ile	Gln	Thr	Phe	Arg	Glu	Phe	Pro	Glu	Tyr	Ala	Glu	Lys	Leu	Ala	Gln
			180					185					190		

Glu	Cys	Asp	Pro	Glu	Thr	Thr	Pro	Val	Met	Met	Tyr	Cys	Thr	Gly	Gly
		195					200					205			
Ile	Arg	Cys	Glu	Leu	Tyr	Ser	Pro	Val	Leu	Leu	Glu	Lys	Gly	Phe	Lys
	210					215					220				
Glu	Val	Tyr	Gln	Leu	Asp	Gly	Gly	Val	Ile	Ala	Tyr	Gly	Gln	Gln	Val
225					230					235					240
Gly	Thr	Gly	Lys	Trp	Leu	Gly	Lys	Leu	Phe	Val	Phe	Asp	Asp	Arg	Leu
			245						250					255	
Ala	Ile	Pro	Ile	Asp	Glu	Ser	Asp	Pro	Asp	Val	Ala	Pro	Ile	Ala	Glu
			260				265						270		
Cys	Cys	His	Cys	Gln	Thr	Pro	Ser	Asp	Ala	Tyr	Tyr	Asn	Cys	Ala	Asn
		275				280						285			
Thr	Asp	Cys	Asn	Ala	Leu	Phe	Leu	Cys	Cys	Asp	Glu	Cys	Ile	His	Gln
	290					295					300				
His	Gln	Gly	Cys	Cys	Gly	Glu	Glu	Cys	Ser	Gln	Ser	Pro	Arg	Val	Arg
305					310					315					320
Lys	Phe	Asp	Ser	Ser	Arg	Gly	Asn	Lys	Pro	Phe	Arg	Arg	Ala	His	Leu
				325					330					335	
Cys	Glu	Ile	Ser	Glu	Asn	Ser	Glu	Ser	Ala	Ser	Cys	Cys	Leu	Ile	
			340				345						350		

<210> 737

<211> 226

<212> PRT

<213> Chlamydia pneumoniae

<400> 737

Gly	Glu	Lys	Phe	Met	Leu	Met	Met	Leu	Met	Met	Ile	Ile	Gly	Ile	Thr
1				5					10					15	
Gly	Gly	Ser	Gly	Ala	Gly	Lys	Thr	Thr	Leu	Thr	Gln	Asn	Ile	Lys	Glu
			20				25						30		
Ile	Phe	Gly	Glu	Asp	Val	Ser	Val	Ile	Cys	Gln	Asp	Asn	Tyr	Tyr	Lys
	35					40						45			
Asp	Arg	Ser	His	Tyr	Thr	Pro	Glu	Glu	Arg	Ala	Asn	Leu	Ile	Trp	Asp
	50					55					60				
His	Pro	Asp	Ala	Phe	Asp	Asn	Asp	Leu	Leu	Ile	Ser	Asp	Ile	Lys	Arg
65					70					75				80	
Leu	Lys	Asn	Asn	Glu	Ile	Val	Gln	Ala	Pro	Val	Phe	Asp	Phe	Val	Leu
			85					90						95	
Gly	Asn	Arg	Ser	Lys	Thr	Glu	Ile	Glu	Thr	Ile	Tyr	Pro	Ser	Lys	Val
			100					105					110		
Ile	Leu	Val	Glu	Gly	Ile	Leu	Val	Phe	Glu	Asn	Gln	Glu	Leu	Arg	Asp
	115						120					125			
Leu	Met	Asp	Ile	Arg	Ile	Phe	Val	Asp	Thr	Asp	Ala	Asp	Glu	Arg	Ile
	130					135					140				
Leu	Arg	Arg	Met	Val	Arg	Asp	Val	Gln	Glu	Gln	Gly	Asp	Ser	Val	Asp
145					150					155				160	
Cys	Ile	Met	Ser	Arg	Tyr	Leu	Ser	Met	Val	Lys	Pro	Met	His	Glu	Lys
			165						170				175		
Phe	Ile	Glu	Pro	Thr	Arg	Lys	Tyr	Ala	Asp	Ile	Ile	Val	His	Gly	Asn
			180					185					190		
Tyr	Arg	Gln	Asn	Val	Val	Thr	Asn	Ile	Leu	Ser	Gln	Lys	Ile	Lys	Asn
		195				200						205			
His	Leu	Glu	Asn	Ala	Leu	Glu	Ser	Asp	Glu	Thr	Tyr	Tyr	Met	Val	Asn
	210					215						220			
Ser	Lys														
225															

<210> 738  
 <211> 580  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 738  
 Arg Gly Glu Leu Leu Lys Leu Ala Arg Gln Cys Leu Val Ala Phe Met  
 1 5 10 15  
 Thr Val Ser Val Lys Lys Lys Ser Phe Arg Ala Leu Val Thr Thr His  
 20 25 30  
 Phe Leu Thr Ile Ile Asn Asp Asn Leu Tyr Lys Phe Leu Leu Ala Phe  
 35 40 45  
 Phe Leu Leu Glu Gly Lys Thr Leu Thr Glu Asn Ala Lys Ile Leu Ser  
 50 55 60  
 Cys Val Ser Phe Phe Phe Ala Leu Pro Phe Leu Leu Leu Ala Pro Leu  
 65 70 75 80  
 Ala Gly Ser Leu Ala Asp Arg Phe Gln Lys Arg Asn Ile Ile Leu Ala  
 85 90 95  
 Thr Arg Phe Ile Glu Ile Leu Cys Thr Ile Leu Gly Thr Tyr Phe Phe  
 100 105 110  
 Phe Ile Gln Ser Val Val Gly Gly Tyr Val Val Leu Ile Leu Met Ala  
 115 120 125  
 Cys His Thr Thr Ile Phe Gly Pro Ala Lys Leu Gly Ile Leu Pro Glu  
 130 135 140  
 Met Leu Pro Ser Glu Gln Leu Ser Gln Ala Asn Gly Ile Met Thr Ala  
 145 150 155 160  
 Ala Thr Tyr Thr Gly Ser Ile Leu Gly Ser Cys Leu Ala Pro Leu Leu  
 165 170 175  
 Val Asp Val Thr His Arg Leu Gly Val Asn Ser Tyr Val Trp Pro Thr  
 180 185 190  
 Leu Met Cys Val Ile Val Ser Ile Ile Ser Thr Leu Ile Ser Phe Cys  
 195 200 205  
 Ile Arg Pro Ser Asn Val Lys Asn Val Lys Gln Lys Ile Thr Leu Val  
 210 215 220  
 Ser Phe Lys Asp Leu Trp Lys Val Leu Lys Asp Thr Arg Met Ile His  
 225 230 235 240  
 Tyr Leu Thr Val Ser Ile Phe Leu Gly Ser Phe Phe Leu Leu Ile Gly  
 245 250 255  
 Ala Tyr Thr Gln Leu Glu Ile Ile Pro Phe Val Glu Phe Thr Leu Lys  
 260 265 270  
 Tyr Pro Lys His Tyr Gly Ala Tyr Leu Phe Pro Ile Val Ala Leu Gly  
 275 280 285  
 Val Gly Thr Gly Ser Tyr Ile Thr Gly Lys Ile Ser Gly Lys Asp Ile  
 290 295 300  
 Lys Ile Gly Tyr Val Pro Leu Ala Ala Ile Gly Leu Ala Leu Val Phe  
 305 310 315 320  
 Met Gly Leu Tyr Ala Phe Ala Cys Ser Ile Leu Phe Val Leu Phe Phe  
 325 330 335  
 Leu Leu Ala Leu Gly Phe Leu Gly Gly Val Tyr Gln Val Pro Leu His  
 340 345 350  
 Ala Tyr Val Gln Tyr Ala Ser Pro Glu His Lys Arg Gly Gln Ile Leu  
 355 360 365  
 Ala Ala Asn Asn Phe Leu Asp Phe Phe Gly Val Leu Val Ala Ala Gly  
 370 375 380  
 Val Ile Arg Val Leu Gly Ser Asn Leu Gly Leu Ser Pro Glu Thr Ser  
 385 390 395 400  
 Phe Phe Tyr Ile Gly Trp Phe Val Leu Ala Val Ser Ile Trp Thr Leu  
 405 410 415  
 Trp Ile Trp Arg Glu His Val Tyr Arg Leu Leu Leu Gly Ile Ile Leu  
 420 425 430



Arg Arg Gln Leu Gly Tyr Tyr Leu Lys Ile His Gln Ser Ser Ser Pro  
 435 440 445  
 Lys Cys Tyr Phe Val Ala Val Gln Ser Tyr Arg Glu Ile Arg Arg Val  
 450 455 460  
 Leu Ala Ala Leu Thr Lys Thr Val Arg Ser Arg Val Ile Ile Leu Asp  
 465 470 475 480  
 Gln Lys Leu Val Pro Gly Trp Arg Ala Trp Leu Leu Ser Trp Cys Val  
 485 490 495  
 Pro Thr Val Val Ser Ser Val Arg Asp Asn Asp Ser Glu Ala Gln Asp  
 500 505 510  
 Ala Trp Ala Val Leu Gln Ala Asn His Leu Lys Thr Ser Leu Lys Lys  
 515 520 525  
 Phe Pro Asp Val Ser Val Val Cys Leu Gly Leu Pro Lys Asn Val Glu  
 530 535 540  
 Arg Phe Thr Ser Ile Leu Gln Glu Gln Gly Ile Asp Leu His Pro Ile  
 545 550 555 560  
 Gln Leu Val Gln Lys Glu Gly Lys Lys Arg Val Ile Tyr Thr Leu Val  
 565 570 575  
 Phe Pro His Ala  
 580

<210> 739  
 <211> 1096  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 739  
 Lys Arg Ser Ala Lys Leu Pro Ala Ser Gly Ala Ser Lys Arg Lys Gly  
 1 5 10 15  
 Arg Ala Lys Lys Lys Leu Thr Gln Glu Arg Ile Phe Ala Phe Ser Val  
 20 25 30  
 Arg Val Leu Pro Ser Asn Arg Lys Asn Ala Lys Arg Asn Leu Tyr Lys  
 35 40 45  
 Leu Ser Phe Ile Ile Val Arg Lys Cys Val Val Thr Ser Ala Leu Asn  
 50 55 60  
 Asp Phe Phe Leu Thr Glu Thr Val Met Asn Ala Thr Lys His Cys Arg  
 65 70 75 80  
 Ala Ser Phe Ser Asn Ser Pro Arg His Leu Leu Ala Gln Leu Ala Glu  
 85 90 95  
 Asp Ile Thr Ser Thr His Gln Lys Pro Phe Thr Lys Arg Trp Ile Leu  
 100 105 110  
 Val Ala Asn Ala Thr Thr Gly His Trp Ile Lys Asn Gln Leu Val His  
 115 120 125  
 Val Leu Ser Asp His Ile Phe Met Gly Ser Thr Ile Phe Thr Ala Ser  
 130 135 140  
 Asp Ser Ile Val Lys His Leu Phe Leu Gly Ser Gly Cys Ser Gln Pro  
 145 150 155 160  
 Asn Ile Pro Asp Tyr Leu Thr Leu Pro Leu Leu Ile Asn Asn Ile Leu  
 165 170 175  
 Glu Glu Ile Ser Lys Ala Ser Lys Phe Glu Asn Gly Arg Glu Phe Leu  
 180 185 190  
 Ser Pro Pro Thr Tyr Glu Thr Thr Lys Lys Leu Ala Ala Phe Lys  
 195 200 205  
 Gln Phe His Thr Phe Ser Gln Arg Pro Thr Lys Asn Ala Ser His Tyr  
 210 215 220  
 Gln Glu Leu Phe Gln Ile Leu Glu Ser His Phe Ser Ser Tyr Glu Glu  
 225 230 235 240  
 Met Phe Thr Thr Ile Leu Asn Asn Arg Thr Gln Glu Glu Asp Cys Ser  
 245 250 255  
 Leu His Ile Phe Gly Tyr Ala His Leu Pro Lys His Leu Ala Glu Phe  
 260 265 270

Phe	Ile	Asn	Leu	Ser	Thr	Tyr	Phe	Pro	Val	Tyr	Phe	Tyr	Cys	Phe	Ser	275	280	285
Pro	Cys	Arg	Glu	Tyr	Phe	Gly	Asp	Leu	Leu	Ser	Asp	Arg	Ala	Ile	Asp	290	295	300
Phe	Phe	Trp	Asn	Gln	Leu	Pro	Asp	Ser	Pro	Ile	Lys	Asn	Ala	Trp	Glu	305	310	315
His	Tyr	Val	Leu	Ser	Asp	Arg	Gln	Ala	Leu	Leu	Ala	Asn	Leu	Ala	His	325	330	335
Lys	Ser	Gln	Ser	Ser	Gln	Asn	Phe	Phe	Leu	Asp	Arg	Glu	Ile	Asp	Tyr	340	345	350
Gln	Glu	Met	Phe	Leu	Pro	Ser	Lys	His	Asp	Ser	Ser	Leu	Gly	Val	Ile	355	360	365
Gln	Asn	Ser	Ile	Leu	Asp	Leu	Lys	Pro	Thr	Ser	Pro	Gln	Asp	Phe	Ser	370	375	380
Gln	Thr	Lys	Gln	Thr	Ile	Cys	Ile	Tyr	Arg	Ala	Leu	Asn	Ile	Pro	Arg	385	390	395
Glu	Val	Gln	Glu	Val	Phe	Cys	Lys	Val	Thr	Glu	Leu	Leu	His	Arg	Gly	405	410	415
Val	Ser	Pro	Glu	Glu	Ile	Phe	Ile	Leu	Ser	Ser	His	Ile	Glu	Ser	Tyr	420	425	430
Lys	Val	His	Leu	Asn	Ala	Ile	Phe	Asn	Pro	His	Val	Pro	Ile	Tyr	Phe	435	440	445
Thr	Asp	Glu	Val	Asp	Pro	Arg	Ala	Glu	Asp	Leu	Arg	Asn	Lys	Ile	Leu	450	455	460
Leu	Leu	Ser	Ser	Ile	Leu	Gln	Thr	Gln	Gly	Asp	Leu	His	Tyr	Ile	Leu	465	470	475
Gln	Leu	Leu	Thr	His	Pro	Gln	Leu	Gln	Gln	Pro	Ile	Asp	Gln	Asn	Lys	485	490	495
Val	Pro	Tyr	Leu	Ile	Lys	Lys	Leu	Ser	Ser	Glu	Trp	Gly	Lys	Ile	Ser	500	505	510
Ser	Lys	Asp	Arg	Ala	Ser	Gly	Gln	Gln	Met	Lys	Ala	Leu	Gly	Asp	Leu	515	520	525
Ile	Leu	Glu	Glu	Tyr	Pro	Phe	His	Gln	Glu	Gly	Gly	Arg	Val	Ser	Gln	530	535	540
Val	Glu	Val	Trp	Glu	Thr	Thr	Val	Pro	Leu	Ile	Tyr	Phe	Ile	Gln	Glu	545	550	555
Arg	Ile	Asn	Leu	Tyr	Leu	Ser	Ser	Ser	Gln	His	Ser	Tyr	Glu	Asp	Leu	565	570	575
Phe	Gln	Asn	Val	Phe	Ser	Cys	Leu	Glu	Lys	Ile	Phe	Val	Leu	Ser	Pro	580	585	590
Glu	Glu	Thr	Ser	Phe	Ile	Thr	Thr	Leu	Arg	Asn	Ser	Leu	Phe	Pro	Thr	595	600	605
Phe	Ala	Thr	Ser	Ser	Cys	Ser	Leu	Leu	Phe	Phe	Thr	Asp	Phe	Cys	Leu	610	615	620
Asp	Phe	Leu	Leu	His	Phe	His	Lys	Pro	Ser	Pro	Leu	Tyr	Asp	Lys	Pro	625	630	635
Gly	Pro	Tyr	Ile	Gly	Ser	Leu	Ser	Ser	Leu	Ser	Leu	Ile	Pro	Lys	Gly	645	650	655
Tyr	Val	Phe	Ile	Leu	Gly	Ala	Asn	Lys	Thr	Thr	Ser	Ser	Asp	Ile	Phe	660	665	670
Asp	Leu	Leu	Asn	Arg	Thr	Thr	Thr	His	Glu	Glu	Leu	Ala	Phe	Ser	Ser	675	680	685
Thr	Glu	Asp	Glu	Glu	Asn	Phe	His	Phe	Leu	Gln	Ile	Leu	Val	Ser	Thr	690	695	700
Lys	His	Glu	Leu	His	Ile	Ser	Tyr	Ile	Ser	Ser	Ala	Ala	Gln	Phe	Asn	705	710	715
Leu	Pro	Ser	Pro	Phe	Leu	Asn	His	Ile	Lys	Glu	Thr	Leu	Asp	Leu	Pro	725	730	735
Val	Glu	Thr	Leu	Pro	Thr	Gln	Pro	Tyr	Leu	Ser	Ala	Phe	Phe	Lys	Asn	740	745	750

Lys Ala Cys Leu His Thr Ser Gln Glu Tyr Asn Tyr Ser Leu Ala His  
 755 760 765  
 Ala Phe Tyr Ser Lys Lys Ala Leu Leu Pro Ser Leu Phe Ile Pro Thr  
 770 775 780  
 Val Lys Gln Val Asn Leu Pro Gln His Leu Ser Leu Asn Glu Ile Ile  
 785 790 795 800  
 Lys Gly Ile Phe Ser Pro Leu Asp Leu Phe Leu Lys Thr Asn Tyr Asn  
 805 810 815  
 Leu Arg Ile Ser Tyr Pro Glu His Leu Lys Lys Gln Gln Lys Leu Phe  
 820 825 830  
 Pro Thr Lys His Gln Ile Glu Asp Phe Trp Asn Glu Cys Phe Val Asp  
 835 840 845  
 Lys Glu His Asp Leu Ile Pro Ser Ile Ser Pro His Ala Glu Glu Leu  
 850 855 860  
 Phe Thr Tyr Tyr Arg Glu Lys Thr Ile Leu Leu Arg Asn Gly Leu Asp  
 865 870 875 880  
 Lys Asp Pro Lys His Ser Pro Tyr Thr Val Thr Phe Ser Ser Ser Ile  
 885 890 895  
 Phe Glu Glu Arg Pro Tyr His Glu Ser Tyr Leu Phe Pro Pro Leu Ser  
 900 905 910  
 Leu Ser Phe Gln Gly Asn Pro Val Gln Ile His Gly Thr Ile His Gly  
 915 920 925  
 Val Cys Asn Glu Gly Leu Tyr Leu Cys Ser Ile Asp Pro Arg Asp Ser  
 930 935 940  
 Leu Lys Lys Thr Thr Arg Thr Leu Gly Ser Leu Pro Glu Thr Ser Ser  
 945 950 955 960  
 Glu Gln Lys Gln Leu Leu Glu Arg Tyr Val Ala Leu Ala Val Leu Gln  
 965 970 975  
 Met Ser Gln His Leu Ser Ser Asp Ser Ala Leu Ile Lys Leu Thr Ser  
 980 985 990  
 Phe Asn Thr Lys Glu Asn His His Pro Pro Phe Ser Asp Pro Glu Gly  
 995 1000 1005  
 Tyr Leu Arg Lys Val Leu Glu Val Tyr His Leu Met Ser Ser Gln Pro  
 1010 1015 1020  
 Ile Pro Leu Leu Ser Pro Leu Cys Trp Lys Thr Leu Asp Asp Glu Glu  
 1025 1030 1035 1040  
 Lys Phe His Gln Ala Val Leu Ser Ala Ile Ser Glu Glu Ala Lys Asn  
 1045 1050 1055  
 Pro Ser Leu Pro Ile Phe Trp Gln Phe His Asn Arg Asn Ile Glu Glu  
 1060 1065 1070  
 Ile Leu Asn His Val Gly Ala Ser Glu Arg Leu Lys Ile Leu Ser Leu  
 1075 1080 1085  
 Phe Arg Gly Pro Cys Glu Ala Val  
 1090 1095

<210> 740  
 <211> 1060  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 740  
 Lys Phe Tyr Leu Phe Ser Glu Val Pro Val Met Lys Pro Phe Asn Ile  
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 Phe Asp Ser Asn Ser Ser Ile Gln Gly Lys Phe Phe Leu Glu Ala Ser  
 20 25 30  
 Ala Gly Thr Gly Lys Thr Phe Thr Ile Glu Gln Ile Val Leu Arg Ala  
 35 40 45  
 Leu Ile Glu Gly Ser Leu Thr His Val Glu His Ala Leu Ala Ile Thr  
 50 55 60  
 Phe Thr Asn Ala Ser Thr Asn Glu Leu Lys Val Arg Ile Lys Asp Asn  
 65 70 75 80

Leu	Ala	Gln	Thr	Leu	Arg	Glu	Leu	Lys	Ala	Val	Leu	Asn	Ser	Gln	Pro	85	90	95
Ala	Ser	Leu	Pro	Thr	Tyr	Leu	Asp	Ile	Asn	Cys	Asn	Val	Lys	Gln	Ile	100	105	110
Tyr	Met	Gln	Val	Arg	Asn	Ala	Leu	Ala	Thr	Leu	Asp	Gln	Met	Ser	Leu	115	120	125
Phe	Thr	Ile	His	Gly	Phe	Cys	Asn	Phe	Val	Leu	Glu	Gln	Tyr	Phe	Pro	130	135	140
Lys	Thr	Arg	Leu	Ile	His	Lys	Asn	Pro	Ala	Leu	Thr	His	Ser	Gln	Leu	145	150	155
Val	Leu	His	His	Ile	Thr	Asn	Tyr	Leu	Lys	Gln	Asp	Leu	Trp	Lys	Asn	165	170	175
Val	Leu	Phe	Gln	Glu	Gln	Phe	His	Leu	Leu	Ala	Val	Arg	Tyr	Asn	Ile	180	185	190
Thr	Ser	Lys	His	Thr	Ser	Ser	Leu	Val	Asp	Lys	Leu	Leu	Ala	Ser	Tyr	195	200	205
Thr	Gln	Pro	Ile	Ser	Ser	Tyr	Phe	Ser	Ser	Arg	Val	Glu	Arg	Leu	Glu	210	215	220
Gln	Ile	Ser	Leu	Trp	His	Gln	Gln	Ile	Tyr	Asn	Ser	Leu	Leu	Glu	Ile	225	230	235
Pro	Lys	Gln	Val	Phe	Leu	Asp	Gln	Leu	Thr	Ala	His	Ile	Ser	Gly	Phe	245	250	255
Lys	Lys	Gln	Pro	Phe	Ser	Ile	Leu	Asp	Asp	Leu	His	His	Phe	Val	Asp	260	265	270
Leu	Leu	Tyr	Thr	Ser	Glu	Thr	His	Ser	Ser	Leu	Phe	Ser	Phe	Phe	Lys	275	280	285
Ile	Ala	Glu	Thr	Phe	Asn	Phe	Lys	His	Arg	Leu	Ala	Arg	Tyr	Lys	Pro	290	295	300
Cys	Ala	Ala	Phe	Thr	Val	Leu	Glu	Asn	Met	Ser	Trp	Val	Glu	Arg	Thr	305	310	315
Leu	Glu	Phe	Cys	Asn	Leu	Asp	Arg	Ile	Phe	Asn	Thr	Leu	Leu	Val	Asp	325	330	335
Leu	Gln	Glu	Tyr	Leu	Lys	Gln	Asn	Tyr	Thr	Pro	Trp	Leu	Ser	Pro	Asp	340	345	350
Glu	Ser	Val	Phe	Ala	Leu	Glu	Lys	Leu	Leu	Ser	Ser	Ser	Glu	Ala	Gln	355	360	365
Pro	Val	Val	Gln	Ala	Leu	Arg	Glu	Gln	Tyr	Gln	Leu	Val	Leu	Ile	Asp	370	375	380
Glu	Phe	Gln	Asp	Thr	Asp	Lys	Gln	Gln	Trp	Ser	Ile	Phe	Ser	Asn	Leu	385	390	395
Phe	Ile	Ser	Pro	Lys	Phe	Thr	Gly	Ser	Leu	Phe	Leu	Ile	Gly	Asp	Pro	405	410	415
Lys	Gln	Ser	Ile	Tyr	Glu	Trp	Arg	Ser	Ala	Asp	Leu	Pro	Thr	Tyr	Leu	420	425	430
Thr	Ala	Lys	Ser	Ser	Phe	Ser	Glu	Asp	Lys	Gln	Leu	Gln	Leu	Val	Asn	435	440	445
Asn	Tyr	Arg	Ser	Thr	Pro	Lys	Leu	Met	Glu	Ala	Ile	Asn	Gln	Ile	Phe	450	455	460
Gly	Lys	Ile	Ser	Pro	Phe	Leu	Glu	Ile	Pro	Gly	Tyr	Leu	Pro	Ile	Glu	465	470	475
Tyr	His	Ala	Leu	Asn	Pro	Gln	Ser	Ser	Glu	Thr	Phe	Glu	Asn	Pro	Pro	485	490	495
His	Ala	Pro	Ile	His	Phe	Phe	Phe	Tyr	Glu	Thr	Ile	Lys	Asp	Gln	Ala	500	505	510
Leu	Trp	Ile	Phe	Ser	Glu	Ala	Leu	Arg	Leu	Gln	Lys	Glu	Gln	Lys	Ile	515	520	525
Pro	Leu	Gly	Asn	Met	Val	Val	Leu	Val	Ser	Asp	Ser	Asn	Gln	Ala	Phe	530	535	540
Glu	Leu	Ile	Ser	Tyr	Ala	Thr	Ile	Pro	Val	Ser	Phe	Ser	Lys	Asn	Lys	545	550	555

Ser	Ile	Phe	His	Leu	Thr	Glu	Thr	His	Ile	Leu	Thr	Thr	Ala	Leu	Leu		
				565					570					575			
Glu	Ala	Ile	Leu	His	Pro	Glu	Asn	Tyr	Glu	Lys	Ile	Ser	Lys	Ile	Leu		
			580					585					590				
Phe	Ser	Ser	Leu	Phe	Gly	Leu	Ser	Leu	Asp	Glu	Val	Thr	Thr	Lys	Lys		
		595					600					605					
Glu	Asp	Phe	Thr	Ile	Tyr	Phe	Gln	Ser	Leu	His	Ser	Tyr	Ile	Ser	His		
	610					615					620						
His	Gly	Leu	Leu	Ala	Thr	Phe	Tyr	Arg	Val	Met	Thr	Thr	Gln	Gly	Asn		
625					630					635					640		
Val	Leu	Phe	Ser	Ser	Pro	Arg	Gly	Asp	Leu	Ile	Phe	Gln	Glu	Met	Glu		
				645					650					655			
Lys	Leu	Cys	Gly	Tyr	Leu	Asp	Thr	Ile	Ser	Ser	Tyr	Pro	Tyr	His	Gln		
		660					665					670					
Leu	Leu	His	Leu	Lys	Asn	Phe	Ser	Glu	Thr	Gly	Arg	Trp	Glu	Glu	Glu		
		675					680					685					
Leu	Ala	Ile	Ser	Ser	Tyr	Ser	Glu	Asp	Leu	Glu	Thr	Leu	Lys	Ile	Thr		
	690					695					700						
Thr	Ile	His	Ser	Ser	Lys	Gly	Leu	Glu	Tyr	Asp	Ile	Val	Phe	Cys	Pro		
705					710					715					720		
Gly	Ile	Glu	Lys	Ser	Lys	Lys	Asn	Lys	Ser	Ser	Ser	Glu	Leu	Leu	Arg		
			725						730					735			
Glu	Met	Tyr	Val	Ala	Cys	Thr	Arg	Ala	Lys	Lys	Gln	Leu	Tyr	Leu	Pro		
		740						745					750				
Ile	Ser	Thr	Gln	Pro	Pro	Ser	Leu	Gln	Arg	Ser	Ser	Ala	Leu	Thr	Asn		
	755						760					765					
Tyr	Val	Lys	Leu	Glu	Gly	Thr	Gln	Ser	Ser	Ala	Tyr	Asp	Leu	Ala	Ile		
	770					775					780						
His	Leu	His	Gln	Glu	His	Pro	Asp	Leu	Phe	Ser	Tyr	Ser	Leu	Pro	Lys		
785					790				795						800		
Asp	His	Gly	His	Ala	Thr	Thr	Val	Leu	Asn	Leu	Pro	Leu	Leu	Glu	Thr		
			805						810					815			
Phe	Ala	Leu	Lys	Val	Thr	Pro	Pro	Lys	Thr	Ile	Phe	Ser	Phe	Ser	Ser		
		820						825					830				
Thr	Lys	Phe	Leu	Leu	Asp	Thr	His	Lys	Asp	Ser	Gln	Ser	Ile	Pro	Tyr		
	835						840					845					
Ser	Lys	Leu	Pro	Ile	Ser	Lys	Gln	Gln	Leu	Pro	Leu	Gly	Glu	Lys	Thr		
	850					855					860						
Gly	Ile	Leu	Ile	His	Lys	Ile	Leu	Glu	Ser	Ile	Gln	Phe	Ser	Leu	Leu		
865					870				875						880		
Gln	Asp	Thr	Glu	Tyr	Leu	Met	Ser	Thr	Ile	Met	Arg	Phe	Ile	Lys	His		
			885						890					895			
Thr	His	Leu	Glu	Gly	Phe	Glu	Glu	Thr	Ile	Leu	Lys	Leu	Leu	Ser	Lys		
		900						905					910				
Thr	Phe	Phe	Ser	Pro	Leu	Thr	Phe	Ser	Ser	Gln	Thr	Phe	Ser	Leu	Ser		
	915						920					925					
Gln	Val	Leu	Pro	Asn	Lys	Ile	Phe	Arg	Glu	Thr	Ser	Phe	Leu	Phe	Leu		
	930					935					940						
Glu	Asn	Gln	Glu	Leu	Trp	Gln	Gly	Val	Ile	Asp	Leu	Phe	Phe	Glu	His		
945					950				955						960		
Glu	Gly	Lys	Tyr	Tyr	Ile	Ile	Asp	Trp	Lys	Thr	Ser	Phe	Leu	Gly	Glu		
			965						970					975			
Thr	Asn	Ser	Asp	Tyr	Ser	Lys	Ser	Asn	Leu	Ser	Ile	Tyr	Ile	Lys	Gln		
		980						985					990				
Glu	Lys	Leu	Asp	Tyr	Gln	Gly	Arg	Ile	Tyr	Val	Lys	Ala	Val	Arg	Lys		
	995					1000						1005					
Phe	Leu	Asn	Gln	Phe	Glu	Ile	Asp	Asp	Asp	Val	Glu	Leu	Gly	Val	Ile		
	1010					1015					1020						
Phe	Ile	Arg	Gly	Ile	Asp	Thr	Gln	Gly	Asn	Gly	Phe	Phe	Ala	Leu	Asn		
1025					1030					1035					1040		

Ser Ser Glu Asp Ile Pro Asn Phe Asn Pro Lys Ala Ile Gln Lys Cys  
 1045 1050 1055  
 Gln Ala Tyr His  
 1060

<210> 741  
 <211> 344  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 741  
 Cys Lys Val Leu Phe Lys Leu Met Ser Tyr Ser Leu Arg Asn Lys Lys  
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 Thr Lys Ile Cys Val Tyr Ile Ile Ile Ala Leu Gly Ile Leu Ser Phe  
 20 25 30  
 Arg Ser Ile Pro Gln Glu Val Tyr Asp Lys Ile Arg Ser Phe Val  
 35 40 45  
 Ser Leu His Val Lys Phe Phe Pro Lys Ile Lys Gln Ala Pro Ser Ser  
 50 55 60  
 His Leu Ala Asn Leu Glu Leu Glu Asn Leu Val Leu Lys Glu Arg Val  
 65 70 75 80  
 Ala Ser Leu Glu Glu Lys Leu Lys Leu Tyr Glu Val Ser Asn His Thr  
 85 90 95  
 Pro Pro Leu Phe Pro Glu Ile Leu Thr Pro Tyr Phe His Lys Leu Val  
 100 105 110  
 Glu Gly Lys Val Val Tyr Arg Asp Tyr Thr His Trp Ser Ser Cys  
 115 120 125  
 Trp Val Asn Val Gly Lys Thr His Gly Ile Lys Lys Asn Ser Pro Val  
 130 135 140  
 Leu Ser Gly Asn Val Leu Val Gly Leu Val Asp Tyr Val Gly Glu His  
 145 150 155 160  
 Gln Ser Arg Ile Arg Leu Ile Thr Asp Val Gly Met Lys Pro Ser Val  
 165 170 175  
 Val Ala Met Arg Gly Asp Ile Gln Ser Trp Trp Ile Lys His Ser Leu  
 180 185 190  
 Arg Glu Leu Ile Arg Gln Val Glu Gln Ile Ser His Ala Tyr Ile Leu  
 195 200 205  
 Glu Lys Asp Lys Tyr Glu Lys Ile Ser Gln Leu Gln Glu Leu Asp Ser  
 210 215 220  
 Leu Ile Gln Gly Glu Gly Glu Asn Gln Ala Leu Leu Arg Gly Ile Leu  
 225 230 235 240  
 Ser Gly Val Gly Gly Ala Leu Trp Lys Glu Gly Ser Leu Cys Leu Glu  
 245 250 255  
 Gly Glu Gly Phe Tyr Phe Ser Glu Gly Lys Thr Leu Leu Pro Gly Asp  
 260 265 270  
 Ile Leu Val Thr Thr Gly Leu Asp Gly Val Phe Pro Pro Gly Leu Leu  
 275 280 285  
 Val Ala Arg Val Thr Lys Val Lys Ala Pro Arg Asp Gly Ala Cys Thr  
 290 295 300  
 Phe Lys Ile Glu Ala Gln Ser Leu Glu Glu Lys Leu Met Glu Leu Asp  
 305 310 315 320  
 Gln Leu Phe Ile Leu Pro Pro Leu Glu Phe Asn Pro Asn Asp Arg Pro  
 325 330 335  
 Asp Ile Phe Gly Leu Leu Trp Asp  
 340

<210> 742  
 <211> 397  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 742

Ser	Tyr	Met	Ser	Phe	Phe	Asn	His	Ile	Pro	Thr	Phe	Ser	Pro	Asp	Ala
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Ile	Leu	Gly	Leu	Gln	Asn	Val	Phe	Phe	Ala	Asp	Lys	Arg	Pro	Glu	Lys
			20					25					30		
Val	Asn	Leu	Val	Ile	Gly	Val	Tyr	Glu	His	Pro	Gln	Lys	Arg	Tyr	Gly
		35					40					45			
Gly	Leu	Ser	Cys	Ile	Arg	Lys	Ala	Gln	Thr	Val	Ile	Leu	Glu	Glu	Glu
	50					55					60				
Gln	Asn	Lys	Ser	Tyr	Leu	Pro	Ile	Ser	Gly	Leu	Gln	Ile	Phe	Leu	Asp
65					70					75				80	
Glu	Met	Arg	Glu	Leu	Val	Phe	Gly	Ala	Val	Asp	Pro	Ser	Ala	Ile	Val
				85					90					95	
Gly	Phe	Gln	Ser	Leu	Gly	Gly	Thr	Gly	Ala	Leu	His	Leu	Gly	Ala	Arg
			100					105					110		
Leu	Leu	Ser	Val	Ala	Lys	Gly	Ser	Gly	Lys	Val	Tyr	Val	Pro	Glu	Gln
		115					120					125			
Thr	Trp	Ser	Asn	His	Ile	Arg	Ile	Phe	Ser	Gln	Glu	Gly	Leu	Glu	Val
	130					135					140				
Ile	Arg	Tyr	Pro	Tyr	Tyr	Ser	Lys	Glu	Gln	Lys	Gln	Leu	Leu	Phe	Glu
145					150					155					160
Pro	Leu	Ile	Ala	Phe	Leu	Lys	Glu	Val	Glu	Lys	Asn	Ser	Val	Ile	Leu
				165					170					175	
Leu	His	Gly	Cys	His	Asn	Pro	Thr	Gly	Val	Asp	Phe	Thr	Glu	Asp	
		180					185					190			
Met	Trp	Lys	Glu	Leu	Ala	Ile	Leu	Met	Lys	Glu	Arg	Glu	Leu	Ile	Pro
		195					200					205			
Phe	Phe	Asp	Thr	Ala	Tyr	Gln	Gly	Phe	Ala	His	Gly	Ile	Glu	Leu	Asp
	210					215					220				
Arg	Lys	Pro	Ile	Glu	Ile	Phe	Ile	Ser	Glu	Gly	Asn	Thr	Val	Leu	Val
225					230					235					240
Ala	Ala	Ser	Ser	Ser	Lys	Asn	Phe	Ala	Leu	Tyr	Gly	Glu	Arg	Val	Gly
				245					250					255	
Tyr	Phe	Ala	Val	His	Ser	Thr	Phe	Thr	Asp	Glu	Leu	Val	Lys	Ile	His
			260					265					270		
Ser	Phe	Leu	Glu	Glu	Lys	Ile	Arg	Gly	Glu	Tyr	Ser	Ser	Pro	Gln	Arg
		275					280					285			
Trp	Gly	Val	Glu	Ile	Val	Ser	Thr	Ile	Leu	Ser	Asn	Pro	Tyr	Leu	Lys
	290					295					300				
Glu	Glu	Trp	Gln	Ser	Glu	Leu	Asn	Phe	Ile	Arg	Glu	Ser	Leu	Gly	Lys
305					310					315					320
Met	Arg	Thr	Arg	Phe	Val	Gln	Ala	Leu	Arg	Lys	Val	Ala	Gly	His	Thr
				325					330					335	
Phe	Asp	Phe	Leu	Leu	Ser	Gln	His	Gly	Phe	Phe	Ala	Tyr	Pro	Gly	Phe
			340					345					350		
Ser	Asp	Lys	Gln	Val	Leu	Phe	Leu	Arg	Glu	Gln	His	Ala	Val	Tyr	Thr
		355					360					365			
Thr	Ala	Gly	Gly	Arg	Met	Asn	Leu	Asn	Gly	Ile	Thr	Glu	Lys	Asn	Ile
	370					375					380				
Asp	His	Val	Val	Gln	Ser	Phe	Ile	Gln	Ala	Tyr	Glu	Leu			
385					390					395					

<210> 743

<211> 733

<212> PRT

<213> Chlamydia pneumoniae

<400> 743

Glu	Tyr	Ile	Phe	Arg	Leu	Lys	Thr	Gly	Asp	Ile	Val	Asp	Tyr	Leu	Glu
1					5				10					15	

Lys	Leu	Gln	Val	Leu	Ile	Glu	Glu	Gly	Gln	Ser	Ala	Asn	Phe	Leu	Ser	20	25	30
Leu	Trp	Glu	Glu	Tyr	Cys	Phe	Asn	Asp	Val	Val	Arg	Gly	Arg	Glu	Leu	35	40	45
Val	Glu	Ile	Leu	Glu	Lys	Val	Lys	Ser	Ser	Ser	Leu	Ala	Ser	Leu	Phe	50	55	60
Gly	Lys	Ile	Val	Asp	Thr	Val	Val	Pro	Leu	Trp	Glu	Lys	Ile	Pro	Glu	65	70	75
Gly	Lys	Asp	Lys	Asp	Arg	Val	Leu	Gln	Leu	Ile	Leu	Asp	Leu	Gln	Thr	85	90	95
Ser	Asn	Ser	Gln	Met	Phe	Phe	Asp	Ile	Ala	Thr	Glu	Tyr	Val	Asn	Lys	100	105	110
Lys	Tyr	Ser	Gly	Glu	Glu	Asn	Phe	Asn	Glu	Ala	Leu	Arg	Val	Val	Gly	115	120	125
Leu	Arg	Asp	Gly	Arg	Asp	Phe	Gln	Phe	Ser	Leu	Ser	Arg	Phe	Asp	Phe	130	135	140
Leu	Met	His	Met	His	Lys	Gly	Asn	Phe	Val	Phe	His	Gln	Gly	Gly	Trp	145	150	155
Gly	Val	Gly	Glu	Val	Met	Gly	Val	Ser	Phe	Leu	Gln	Gln	Lys	Val	Leu	165	170	175
Ile	Glu	Phe	Glu	Gly	Ile	Met	Ser	Ala	Lys	Asp	Ile	Ser	Phe	Glu	Thr	180	185	190
Ala	Phe	Lys	Ser	Leu	Thr	Pro	Leu	Ser	Gly	Asp	His	Phe	Leu	Ser	Arg	195	200	205
Arg	Phe	Gly	Asp	Pro	Asp	Gly	Phe	Glu	Ala	Phe	Ala	Lys	Glu	Asn	Pro	210	215	220
Ile	Glu	Val	Val	Glu	Ile	Leu	Leu	Arg	Asp	Leu	Gly	Pro	Lys	Thr	Ala	225	230	235
Lys	Glu	Ile	Lys	Asp	Glu	Leu	Val	Asp	Leu	Val	Ile	Pro	Glu	Ala	Asp	245	250	255
Trp	Asn	Arg	Trp	Trp	Gln	Ser	Ala	Lys	Thr	Lys	Ile	Lys	Lys	Gly	Thr	260	265	270
Arg	Ile	Ile	Ser	Pro	Asp	Asn	Pro	Lys	Glu	Pro	Tyr	Val	Leu	Ser	Asp	275	280	285
Ala	Gly	Cys	Ser	His	Met	Gly	Gln	Leu	Glu	Arg	Lys	Leu	Gly	Leu	Ser	290	295	300
Leu	Asn	Ser	Ala	Glu	Lys	Ile	Ser	Leu	Ile	Tyr	His	Phe	Ile	Arg	Asp	305	310	315
Leu	His	Ser	Glu	Leu	Lys	Asn	Ile	Glu	Ile	Arg	Lys	Ser	Leu	Val	Lys	325	330	335
Ala	Leu	Gln	Asp	Leu	Asp	Val	Glu	Glu	Gly	Asn	Lys	Ser	Leu	Ile	Leu	340	345	350
Gln	Arg	Glu	Leu	Leu	Leu	Ser	Glu	Tyr	Leu	Gly	Ile	Lys	Asp	Ala	Ser	355	360	365
Ile	Asp	Lys	Glu	Tyr	Ile	Thr	Ser	Leu	Ser	Glu	Asp	Asp	Thr	Ser	Arg	370	375	380
Leu	Leu	Glu	Asn	Met	Pro	Ile	Val	Ala	Leu	Gln	Lys	Ser	Phe	Leu	Ser	385	390	395
Leu	Val	Arg	Lys	Tyr	Ser	Ser	Phe	Trp	Gln	Gln	Val	Phe	Met	Gln	Ile	405	410	415
Leu	Leu	Tyr	Thr	Thr	Ser	Pro	Thr	Met	Arg	Asp	Phe	Val	Tyr	Lys	Thr	420	425	430
Ile	Lys	Asn	Asp	Pro	Ser	Ser	Val	Glu	Val	Leu	Lys	Lys	Arg	Leu	Leu	435	440	445
Asp	Ser	Ala	His	Gln	Pro	Met	Met	Phe	Pro	Glu	Leu	Phe	Val	Trp	Phe	450	455	460
Phe	Leu	Lys	Leu	Gly	Asn	His	Glu	Asp	Gly	Leu	Phe	Asp	Pro	Glu	Asp	465	470	475
Lys	Glu	Val	Leu	Arg	Leu	Phe	Leu	Glu	Ser	Ala	Leu	Asn	Phe	Met	Tyr	485	490	495



Gln	Val	Ala	Ser	Thr	Pro	His	Lys	Glu	Leu	Gly	Lys	Lys	Leu	His	His		
			500					505					510				
Tyr	Leu	Val	Gly	Gln	Arg	Tyr	Leu	Ala	Val	Arg	Gln	Met	Ile	Glu	Gly		
		515					520					525					
Ala	Ser	Leu	Pro	Phe	Leu	Lys	Glu	Leu	Leu	Leu	Leu	Ser	Thr	Lys	Cys		
	530					535					540						
Pro	Gln	Phe	Ser	Ser	Ser	Asp	Leu	Asn	Val	Leu	Gln	Ser	Leu	Ala	Glu		
545					550					555					560		
Val	Val	Gln	Pro	Thr	Leu	Lys	Lys	His	Lys	Ser	Asn	Val	Glu	Glu	Glu		
				565					570					575			
Asn	Val	Leu	Trp	Ser	Thr	Ser	Glu	Ser	Phe	Ser	Arg	Met	Lys	Ala	Lys		
		580						585					590				
Leu	Gln	Ser	Leu	Val	Gly	Lys	Glu	Met	Val	Asp	Asn	Ala	Lys	Glu	Ile		
	595						600					605					
Glu	Asp	Ala	Arg	Ser	Leu	Gly	Asp	Leu	Arg	Glu	Asn	Ser	Glu	Tyr	Lys		
	610					615					620						
Phe	Ala	Leu	Glu	Lys	Arg	Ala	Arg	Leu	Gln	Glu	Glu	Ile	Arg	Val	Leu		
625					630					635					640		
Ser	Glu	Glu	Ile	Asn	Arg	Ala	Arg	Ile	Leu	Thr	Lys	Asp	Leu	Val	Phe		
				645					650					655			
Thr	Asp	Lys	Val	Gly	Val	Gly	Cys	Lys	Val	Thr	Leu	Lys	Gly	Asp	Ala		
		660						665					670				
Gly	Glu	Val	Val	Glu	Tyr	Thr	Ile	Leu	Gly	Pro	Trp	Asp	Ala	Asp	Pro		
		675					680					685					
Asp	Ser	Cys	Ile	Leu	Ser	Leu	Gln	Ser	Lys	Leu	Ala	Gln	Asn	Met	Leu		
	690					695				700							
Gly	Lys	Lys	Leu	Asn	Asp	Val	Val	Ile	Leu	Gln	Gly	Lys	Glu	Tyr	Lys		
705				710					715						720		
Ile	Ser	Arg	Ile	Gln	Ser	Ile	Trp	Glu	Glu	His	Gly	Ala					
				725					730								

<210> 744

<211> 149

<212> PRT

<213> Chlamydia pneumoniae

<400> 744

Thr	Lys	Met	Met	Val	Ile	Val	Met	Asn	Ser	Lys	Ser	Ala	Gln	Lys	Ile		
1				5				10					15				
Ile	Asp	Ser	Ile	Lys	Gln	Ile	Leu	Thr	Ile	Tyr	Asn	Ile	Asp	Phe	Asp		
			20					25				30					
Pro	Ser	Phe	Gly	Ser	Ser	Leu	Ser	Ser	Asp	Ser	Asp	Ala	Asp	Tyr	Glu		
		35				40						45					
Tyr	Leu	Ile	Thr	Lys	Thr	Gln	Glu	Lys	Ile	Gln	Glu	Leu	Asp	Lys	Arg		
	50					55					60						
Ala	Gln	Glu	Ile	Leu	Thr	Gln	Thr	Gly	Met	Ser	Lys	Glu	Gln	Met	Glu		
65					70					75					80		
Val	Phe	Ala	Asn	Asn	Pro	Asp	Asn	Phe	Ser	Pro	Glu	Glu	Trp	Leu	Ala		
			85					90					95				
Leu	Glu	Lys	Val	Arg	Ser	Ser	Cys	Asp	Glu	Tyr	Arg	Lys	Glu	Thr	Glu		
			100					105					110				
Asn	Leu	Ile	Asn	Glu	Ile	Thr	Leu	Asp	Leu	His	Pro	Thr	Lys	Glu	Ser		
		115					120					125					
Lys	Arg	Pro	Lys	Gln	Lys	Leu	Ser	Ser	Thr	Lys	Lys	Asn	Lys	Lys	Lys		
	130					135					140						
Asn	Trp	Ile	Pro	Leu													
145																	

<210> 745  
 <211> 469  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 745  
 Ile Phe Met Lys Ile Thr Val Asn Arg Gly Leu Asp Leu Ser Leu Gln  
 1 5 10 15  
 Gly Ser Pro Lys Glu Ser Gly Phe Tyr Asn Lys Ile Asp Pro Glu Phe  
 20 25 30  
 Val Ser Ile Asp Leu Arg Pro Phe Gln Pro Leu Ser Leu Lys Leu Lys  
 35 40 45  
 Val Glu Gln Gly Asp Ala Val Cys Ser Gly Ala Pro Ile Ala Glu Tyr  
 50 55 60  
 Lys His Phe Pro Asn Thr Tyr Ile Thr Ser His Val Ser Gly Val Val  
 65 70 75 80  
 Thr Ala Ile Arg Arg Gly Asn Lys Arg Ser Leu Leu Asp Val Ile Ile  
 85 90 95  
 Lys Lys Thr Pro Gly Pro Thr Ser Thr Glu Tyr Thr Tyr Asp Leu Gln  
 100 105 110  
 Thr Leu Ser Arg Ser Asp Leu Ser Glu Ile Phe Lys Glu Asn Gly Leu  
 115 120 125  
 Phe Ala Leu Ile Lys Gln Arg Pro Phe Asp Ile Pro Ala Ile Pro Thr  
 130 135 140  
 Gln Thr Pro Arg Asp Val Phe Ile Asn Leu Ala Asp Asn Arg Pro Phe  
 145 150 155 160  
 Thr Pro Ser Pro Glu Lys His Leu Ala Leu Phe Ser Ser Arg Glu Glu  
 165 170 175  
 Gly Phe Tyr Val Phe Val Val Gly Val Arg Ala Ile Ala Lys Leu Phe  
 180 185 190  
 Gly Leu Arg Pro His Ile Val Phe Arg Asp Arg Leu Thr Leu Pro Thr  
 195 200 205  
 Gln Glu Leu Lys Thr Ile Ala His Leu His Thr Val Ser Gly Pro Phe  
 210 215 220  
 Pro Ser Gly Ser Pro Ser Ile His Ile His Ser Val Ala Pro Ile Thr  
 225 230 235 240  
 Asn Glu Lys Glu Val Val Phe Thr Leu Ser Phe Gln Asp Val Leu Thr  
 245 250 255  
 Ile Gly His Leu Phe Leu Lys Gly Arg Ile Leu His Glu Gln Val Thr  
 260 265 270  
 Ala Leu Ala Gly Thr Ala Leu Lys Ser Ser Leu Arg Arg Tyr Val Ile  
 275 280 285  
 Thr Thr Lys Gly Ala Ser Phe Ser Ser Leu Ile Asn Leu Asn Asp Ile  
 290 295 300  
 Ser Asp Asn Asp Thr Leu Ile Ser Gly Asp Pro Leu Thr Gly Arg Leu  
 305 310 315 320  
 Cys Lys Lys Glu Glu Glu Pro Phe Leu Gly Phe Arg Asp His Ser Ile  
 325 330 335  
 Ser Val Leu His Asn Pro Thr Lys Arg Glu Leu Phe Ser Phe Leu Arg  
 340 345 350  
 Ile Gly Phe Asn Lys Pro Thr Phe Thr Lys Thr Tyr Leu Ser Gly Phe  
 355 360 365  
 Phe Lys Lys Lys Arg Thr Tyr Thr Asn Pro Asp Thr Asn Leu His Gly  
 370 375 380  
 Glu Thr Arg Pro Ile Ile Asp Thr Asp Ile Tyr Asp Lys Val Met Pro  
 385 390 395 400  
 Met Arg Ile Pro Val Val Pro Leu Ile Lys Ala Val Ile Thr Lys Asn  
 405 410 415  
 Phe Asp Leu Ala Asn Glu Leu Gly Phe Leu Glu Val Cys Gly Glu Asp  
 420 425 430

Phe Ala Leu Pro Thr Leu Ile Asp Pro Ser Lys Thr Glu Met Leu Thr  
435 440 445  
Ile Val Lys Glu Ser Leu Ile Glu Tyr Ala Lys Glu Ser Gly Ile Leu  
450 455 460  
Thr Pro His Gln Asp  
465

<210> 746  
<211> 333  
<212> PRT  
<213> Chlamydia pneumoniae

<400> 746  
Glu Met Ser Ser Leu Thr Leu Ser Arg Arg Pro Arg Arg Asn Arg Lys  
1 5 10 15  
Thr Ala Ala Ile Arg Asp Leu Leu Ala Glu Thr His Leu Ser Pro Lys  
20 25 30  
Asp Leu Ile Ala Pro Phe Phe Val Lys Tyr Gly Asn Asn Ile Lys Glu  
35 40 45  
Glu Ile Pro Ser Leu Pro Gly Val Phe Arg Trp Ser Leu Asp Leu Leu  
50 55 60  
Leu Lys Glu Ile Glu Arg Leu Cys Thr Tyr Gly Leu Arg Ala Val Met  
65 70 75 80  
Leu Phe Pro Ile Ile Pro Asp Asp Leu Lys Asp Ala Tyr Gly Ser Tyr  
85 90 95  
Ser Ser Asn Pro Lys Asn Ile Leu Cys His Ser Ile His Glu Ile Lys  
100 105 110  
Asn Ala Phe Pro His Leu Cys Leu Ile Ser Asp Ile Ala Leu Asp Pro  
115 120 125  
Tyr Thr Thr His Gly His Asp Gly Ile Phe Leu Asn Gly Glu Val Leu  
130 135 140  
Asn Asp Glu Ser Val Arg Ile Phe Gly Asn Ile Ala Thr Leu His Ala  
145 150 155 160  
Glu Met Gly Ala Asp Ile Val Ala Pro Ser Asp Met Met Asp Gly Arg  
165 170 175  
Ile Gly Tyr Ile Arg Ser Lys Leu Asp Gln Ser Gly Tyr Ser Lys Thr  
180 185 190  
Ser Ile Met Ser Tyr Ser Val Lys Tyr Ala Ser Cys Leu Tyr Ser Pro  
195 200 205  
Phe Arg Asp Ala Leu Ser Ser His Val Thr Ser Gly Asp Lys Lys Gln  
210 215 220  
Tyr Gln Met Asn Pro Lys Asn Val Leu Glu Ala Leu Leu Glu Ser Ser  
225 230 235 240  
Leu Asp Glu Glu Glu Gly Ala Asp Ile Leu Met Val Lys Pro Ala Gly  
245 250 255  
Leu Tyr Leu Asp Val Ile Tyr Arg Ile Arg Gln Asn Thr Cys Leu Pro  
260 265 270  
Leu Ala Ala Tyr Gln Val Ser Gly Glu Tyr Ala Met Ile Leu Ser Ala  
275 280 285  
Phe Gln Gln Gly Trp Leu Asp Lys Glu Thr Leu Phe His Glu Ser Leu  
290 295 300  
Ile Ala Ile Lys Arg Ala Gly Ala Asp Met Ile Ile Ser Tyr Ser Ala  
305 310 315 320  
Pro Phe Ile Leu Glu Leu Leu His Gln Gly Phe Glu Phe  
325 330

<210> 747  
<211> 54  
<212> PRT  
<213> Chlamydia pneumoniae

<400> 747  
Val Asp Ser Cys Phe Asp Asp Trp Arg Ala Ser Ser Leu Gln Gly Ser  
1 5 10 15  
Thr Thr Tyr Asn Val Ala Tyr Asp Pro Lys His Thr Leu Ala Tyr Gly  
20 25 30  
Phe Cys Asn Gln Val Ser Val Lys Lys Phe His Leu Lys Pro Pro Lys  
35 40 45  
Ser Gln Glu Lys Phe Leu  
50

<210> 748

<211> 543

<212> PRT

<213> Chlamydia pneumoniae

<400> 748  
Phe Ser Gly Arg Cys Pro Phe Ser Phe Glu Val Phe Met Leu Gly Lys  
1 5 10 15  
Glu Glu Glu Phe Thr Cys Lys Gln Lys Gln Cys Leu Ser His Phe Val  
20 25 30  
Thr Asn Leu Thr Ser Asp Val Phe Ala Leu Lys Asn Leu Pro Glu Val  
35 40 45  
Val Lys Gly Ala Leu Phe Ser Lys Tyr Ser Arg Ser Val Leu Gly Leu  
50 55 60  
Arg Ala Leu Leu Leu Lys Glu Phe Leu Ser Asn Glu Glu Asp Gly Asp  
65 70 75 80  
Val Cys Asp Glu Ala Tyr Asp Phe Glu Thr Asp Val Gln Lys Ala Ala  
85 90 95  
Asp Phe Tyr Gln Arg Val Leu Asp Asn Phe Gly Asp Asp Ser Val Gly  
100 105 110  
Glu Leu Gly Gly Ala His Leu Ala Met Glu Asn Val Ser Ile Leu Ala  
115 120 125  
Ala Lys Val Leu Glu Asp Ala Arg Ile Gly Gly Ser Pro Leu Glu Lys  
130 135 140  
Ser Thr Arg Tyr Val Tyr Phe Asp Gln Lys Val Arg Gly Glu Tyr Leu  
145 150 155 160  
Tyr Tyr Arg Asp Pro Ile Leu Met Thr Ser Ala Phe Lys Asp Met Phe  
165 170 175  
Leu Gly Thr Cys Asp Phe Leu Phe Asp Thr Tyr Ser Ala Leu Ile Pro  
180 185 190  
Gln Val Arg Ala Tyr Phe Glu Lys Leu Tyr Pro Lys Asp Ser Lys Thr  
195 200 205  
Pro Ala Ser Ala Tyr Ala Thr Ser Leu Arg Ala Lys Val Leu Asp Cys  
210 215 220  
Ile Arg Gly Leu Leu Pro Ala Ala Thr Leu Thr Asn Leu Gly Phe Phe  
225 230 235 240  
Gly Asn Gly Arg Phe Trp Gln Asn Leu Ile His Lys Leu Gln Gly His  
245 250 255  
Asn Leu Ala Glu Leu Arg Arg Leu Gly Asp Glu Ser Leu Thr Glu Leu  
260 265 270  
Met Lys Val Ile Pro Ser Phe Val Ser Arg Ala Glu Pro His His His  
275 280 285  
His His Gln Ala Met Met Gln Tyr Arg Arg Ala Leu Lys Glu Gln Leu  
290 295 300  
Lys Gly Leu Ala Glu Gln Ala Thr Phe Ser Glu Glu Met Ser Ser Ser  
305 310 315 320  
Pro Ser Val Gln Leu Val Tyr Gly Asp Pro Asp Gly Ile Tyr Lys Val  
325 330 335  
Ala Ala Gly Phe Leu Phe Pro Tyr Ser Asn Arg Ser Leu Thr Asp Leu  
340 345 350

Ile Asp Tyr Cys Lys Lys Met Pro His Glu Asp Leu Val Gln Ile Leu  
 355 360 365  
 Glu Ser Ser Val Ser Ala Arg Glu Asn Arg Arg His Lys Ser Pro Arg  
 370 375 380  
 Gly Leu Glu Cys Val Glu Phe Gly Phe Asp Ile Leu Ala Asp Phe Gly  
 385 390 395 400  
 Ala Tyr Arg Asp Leu Gln Arg His Arg Thr Leu Thr Gln Glu Arg Gln  
 405 410 415  
 Leu Leu Ser Thr His His Gly Tyr Asn Phe Pro Val Glu Leu Leu Asp  
 420 425 430  
 Thr Pro Met Glu Lys Ser Tyr Arg Glu Ala Met Glu Arg Ala Asn Glu  
 435 440 445  
 Thr Tyr Asn Glu Ile Val Gln Glu Phe Pro Glu Glu Ala Gln Tyr Met  
 450 455 460  
 Val Pro Met Ala Tyr Asn Ile Arg Trp Phe Phe His Val Asn Ala Arg  
 465 470 475 480  
 Ala Leu Gln Trp Ile Cys Glu Leu Arg Ser Gln Pro Gln Gly His Gln  
 485 490 495  
 Asn Tyr Arg Thr Ile Ala Thr Gly Leu Val Arg Glu Val Val Lys Phe  
 500 505 510  
 Asn Pro Met Tyr Glu Leu Phe Phe Lys Phe Val Asp Tyr Ser Asp Ile  
 515 520 525  
 Asp Leu Gly Arg Leu Asn Gln Glu Met Arg Lys Glu Pro Thr Thr  
 530 535 540

<210> 749

<211> 35

<212> PRT

<213> Chlamydia pneumoniae

<400> 749

Arg Thr Cys Met Gly Cys Lys Gly Ala Glu Val Gln Ile Leu Ser Ser  
 1 5 10 15  
 Arg Ser Leu Ser Gly Met Lys Ile Leu Ser Ser Ser Leu Phe Tyr Lys  
 20 25 30  
 Lys Phe Cys  
 35

<210> 750

<211> 292

<212> PRT

<213> Chlamydia pneumoniae

<400> 750

Gly Thr Leu Val Leu His Ala Leu Asp Thr Tyr Arg Pro Ser Ile Glu  
 1 5 10 15  
 Ser Ala Ile Glu Lys Ala Leu Glu Gly Phe Gly Pro Ile Gly His Pro  
 20 25 30  
 Ile Arg Ser Pro Val Glu Tyr Ala Leu Gln Gly Gly Gly Lys Arg Leu  
 35 40 45  
 Arg Pro Gly Leu Val Cys Met Met Ala Gln Gly Leu Gly Leu Asn His  
 50 55 60  
 Asp Val Met Asp Ser Ala Leu Ala Val Glu Phe Val His Thr Ser Thr  
 65 70 75 80  
 Leu Ile Ala Asp Asp Leu Pro Cys Met Asp Asn Asp Asp Glu Arg Arg  
 85 90 95  
 Gly Arg Pro Thr Val His Lys Ala Phe Asp Glu Ala Thr Ala Leu Leu  
 100 105 110  
 Ala Ser Tyr Ala Leu Ile Pro Ala Tyr Ser His Leu Arg Leu Asn  
 115 120 125

Ala	Lys	Lys	Leu	Lys	Glu	Gln	Gly	Cys	Asp	Pro	Arg	Glu	Ile	Asp	Ile		
130						135					140						
Ala	Tyr	Asn	Ile	Ile	Gly	Asp	Ile	Thr	Asp	Lys	Asn	Ile	Gly	Cys	Ser		
145					150					155					160		
Gly	Val	Leu	Gly	Gly	Gln	Tyr	Asp	Asp	Met	Phe	Phe	Ser	Asn	Arg	Gly		
				165					170					175			
Gln	Glu	His	Val	Gln	Ser	Ile	Met	Ile	Lys	Lys	Thr	Gly	Ser	Leu	Phe		
			180					185						190			
Glu	Ile	Ala	Cys	Ile	Ser	Gly	Trp	Leu	Phe	Gly	Gly	Gly	Asp	Pro	Gln		
		195					200					205					
Phe	Ala	Pro	Ile	Ile	Thr	Ser	Phe	Ser	Asn	Asn	Phe	Gly	Leu	Leu	Phe		
	210					215					220						
Gln	Ile	Lys	Asp	Asp	Phe	Ser	Asp	Leu	Gln	Lys	Asp	Ser	Gln	Gln	Ile		
225					230					235					240		
Gly	Leu	Asn	Tyr	Ala	Leu	Leu	Phe	Gly	Glu	Lys	Ala	Ala	Leu	Glu	Leu		
				245				250						255			
Leu	Ala	Arg	Ser	Gln	Asn	Asn	Cys	Leu	Glu	Leu	Leu	Asp	Arg	Leu	Ser		
			260					265						270			
Ala	Gly	Gly	Leu	Lys	Asn	Ser	Ser	Glu	Phe	Glu	Thr	Ile	Ile	Ser	Ser		
		275					280						285				
Leu	Gly	Ser	Phe														
	290																

<210> 751

<211> 211

<212> PRT

<213> Chlamydia pneumoniae

<400> 751

Val	Cys	Tyr	Met	Thr	Tyr	Leu	Ala	Ser	Ser	Ile	Phe	Ser	Pro	Glu	Asp		
1				5					10					15			
Phe	Leu	Tyr	Pro	Glu	Ile	Ile	Ser	Lys	Ala	His	Tyr	Thr	Trp	Asp	Ile		
			20					25					30				
Leu	Asp	Leu	Met	Asp	Gln	Met	Leu	Glu	Asn	His	Val	Phe	Ser	Gly	Ile		
			35				40					45					
His	Gly	Thr	Val	Glu	Ser	Gly	Val	Thr	Leu	Lys	Asn	Ile	Glu	Lys	Ile		
	50					55					60						
Glu	Ile	Ala	Glu	Asp	Ala	Tyr	Val	Glu	Ser	Gly	Ala	Tyr	Ile	Val	Gly		
65					70					75					80		
Pro	Cys	Ile	Leu	Gly	Ser	Gln	Thr	Glu	Val	Arg	His	Gly	Ala	Tyr	Leu		
				85				90						95			
Arg	Gly	Asn	Val	Ile	Thr	Gly	Ser	Arg	Cys	Val	Val	Gly	His	Cys	Thr		
			100					105						110			
Glu	Ile	Lys	Asn	Ser	Tyr	Leu	Gly	His	His	Thr	Lys	Ala	Ala	His	Phe		
		115					120					125					
Ala	Tyr	Leu	Gly	Asp	Ser	Val	Leu	Ser	Ser	Glu	Val	Asn	Leu	Gly	Ala		
	130						135					140					
Gly	Val	Arg	Cys	Ala	Asn	Phe	Arg	Leu	Asp	Gly	Arg	Asn	Ile	Tyr	Val		
145					150					155					160		
Arg	Ser	Thr	Ser	Asp	Lys	Ser	Lys	Lys	Ile	Asp	Thr	Gly	Arg	Arg	Lys		
				165					170					175			
Leu	Gly	Ala	Phe	Leu	Gly	Lys	Gly	Val	Ala	Ile	Gly	Cys	Asn	Val	Val		
			180					185					190				
Ile	Asn	Pro	Gly	Gln	His	Ile	Leu	Pro	His	Thr	Arg	Ile	Arg	Pro	Gly		
		195					200						205				
Gln	Val	Ile															
	210																

<210> 752  
 <211> 253  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 752  
 Lys Ile Thr Asp Phe Ile Leu Arg Ile His Ser Tyr Asn Leu Phe Cys  
 1 5 10 15  
 Phe His Met Ile Gly Asp Lys Ile Ile Leu Phe Val Thr Glu Asp Leu  
 20 25 30  
 Ser Leu Ser Ser Gln Leu Lys Asp Leu Ala Ser Gln Arg Ser Asp Tyr  
 35 40 45  
 Gln Ile Leu Val Ser Pro Val Phe Pro Thr Ser Phe Glu Ser Val Ala  
 50 55 60  
 Ile Phe Cys Glu Tyr Leu Leu Leu Pro Glu Gln Ile Phe Ser Pro Gly  
 65 70 75 80  
 Ile Phe Pro Glu Glu Asp Leu Ile Val Leu Phe Asp Thr Phe Gln Glu  
 85 90 95  
 Glu Ala Ile Thr Lys Val Leu Asn Gln Gly Ala Thr Gly Tyr Leu Leu  
 100 105 110  
 Arg Pro Ile Thr Ala Lys Val Leu Asp Ala Val Ile Arg Ala Phe Leu  
 115 120 125  
 Arg Gln His Glu Val Leu Glu His Ser Ile Pro Asp Thr Met Thr Phe  
 130 135 140  
 Gly Asp His Thr Phe Arg Val Leu Asn Leu Val Ile Glu Ser Pro Glu  
 145 150 155 160  
 Gly Ser Val Tyr Leu Thr Pro Ser Glu Ala Gly Ile Leu Lys Lys Leu  
 165 170 175  
 Leu Ile Asn Arg Gly His Leu Cys Leu Arg Lys Asn Leu Leu Ala Glu  
 180 185 190  
 Ile Lys Gly Asn Thr Lys Glu Ile Ile Ala Arg Asn Val Asp Val His  
 195 200 205  
 Ile Ala Ser Leu Arg Lys Lys Leu Gly Pro Tyr Gly Ser Lys Ile Val  
 210 215 220  
 Thr Ile Arg Gly Val Gly Tyr Leu Phe Ser Asp Asp Asp Ser Ile Pro  
 225 230 235 240  
 Leu Gln Asn His Asp Asn Thr Ala His Pro Asn Glu Glu  
 245 250

<210> 753  
 <211> 609  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 753  
 Met Phe Arg Cys Ile Leu Phe Gly Ile Phe Leu Leu Thr Cys Phe Ser  
 1 5 10 15  
 Ser Gly Gly Val Leu Tyr Tyr Leu Phe Cys Ser His Asp Phe Ser Ile  
 20 25 30  
 Gly Pro Lys Glu Lys Ser Arg Ser Val Trp Ile Glu Glu Glu Lys Glu  
 35 40 45  
 Phe Thr Asp Ser Val Leu His His Leu Pro Ser Gln His Gln His Leu  
 50 55 60  
 His Ile Leu Cys Phe Gln Gly Phe Leu Leu Gln Lys Gln Gln Lys Phe  
 65 70 75 80  
 Ser Gln Ala Glu Lys Ile Phe Ser Lys Val Tyr Asp Glu Ala Gln Asp  
 85 90 95  
 Gly Pro Phe Leu Phe Lys Glu Glu Ile Leu Gly Ser Arg Leu Ile Asn  
 100 105 110  
 Ser Phe Phe Leu Glu Lys Thr Asp Val Met Glu Thr Ile Leu Cys Leu  
 115 120 125

Leu Asn Gln Arg Cys Pro Asn Ser Pro Tyr Tyr His Leu Phe Lys Ala  
 130 135 140  
 Leu Val Cys Tyr Lys Gln Lys Leu Tyr Arg Glu Val Ile Glu Gln Leu  
 145 150 155 160  
 Ala Tyr Trp Gln Glu Glu Lys Thr Arg Ala Leu Ala Pro Leu Leu Asn  
 165 170 175  
 Ile Ser Ile Glu Gln Leu Leu Thr Asp Phe Leu Leu Asp Tyr Ile Ser  
 180 185 190  
 Ala His Ser Leu Ile Glu Gln Lys Met Phe Pro Glu Gly Arg Val Ile  
 195 200 205  
 Leu Asn Arg Asn Ile Asn Arg Leu Leu Lys His Glu Cys Glu Trp Asn  
 210 215 220  
 Ala Lys Thr Tyr Asp Arg Ile Ala Ile Leu Leu Ser Arg Ser Tyr Phe  
 225 230 235 240  
 Leu Glu Leu Val Glu Ser Lys Ser Ala Asp Ile Tyr Phe Asp Tyr Tyr  
 245 250 255  
 Glu Met Val Leu Phe Tyr Leu Lys Lys Ile Tyr Ile Leu Glu Gln Cys  
 260 265 270  
 Pro Tyr Ala Glu Leu Leu Pro Glu Glu Leu Val Ser Leu Ile Met  
 275 280 285  
 Glu His Val Phe Ile Leu Pro Lys Asp Lys Leu Tyr Pro Leu Ile Gln  
 290 295 300  
 Leu Leu Glu Met Trp Gln Lys His Tyr Val His Pro Asn Ser Ser Leu  
 305 310 315 320  
 Val Val Gln Ile Leu Val Asp Arg Phe Ser Thr His Met Glu Gly Ala  
 325 330 335  
 Ile Arg Phe Cys Glu Ala Leu Val Ser Phe Ser Gly Leu Glu Glu Leu  
 340 345 350  
 His Gln Gln Ile Ile Thr Thr Phe Glu Glu Leu Leu Ser Asn Lys Val  
 355 360 365  
 Gln Gln Ile Lys Thr Glu Glu Ala Lys Gln Cys Val Ala Leu Leu His  
 370 375 380  
 Ile Leu Asp Pro Ser Ile Ser Ile Ser Glu Lys Leu Ala Leu Ser Ser  
 385 390 395 400  
 Asp Thr Leu Gln Asn Ile Val Ser Gly Asp Asp Glu Gln His Thr Lys  
 405 410 415  
 Leu Arg Asn Tyr Leu Asp Leu Trp Glu Ala Ile Gln Ser Tyr Asp Ile  
 420 425 430  
 Asp Arg Gln Gln Leu Val His His Leu Val Tyr Gly Ala Lys Asp Leu  
 435 440 445  
 Trp Lys Lys Gly Gly Asn Asp Glu Lys Ala Leu Asn Leu Leu Gln Leu  
 450 455 460  
 Val Leu Arg Phe Thr Ser Tyr Asp Ile Glu Cys Glu Ser Val Val Phe  
 465 470 475 480  
 Leu Phe Ile Lys Gln Ala Tyr Lys Gln Ala Leu Ser Ser His Ala Ile  
 485 490 495  
 Ala Arg Leu Leu Lys Leu Glu Lys Phe Ile Ser Glu Ala Asn Ile Pro  
 500 505 510  
 Ser Ile Val Ile Ser Glu Ala Glu Lys Ala Asn Phe Leu Ala Asp Ala  
 515 520 525  
 Glu Tyr Leu Phe Ala His Glu Asp Tyr Asp Lys Cys Tyr Leu Tyr Ser  
 530 535 540  
 Met Trp Leu Thr Lys Val Ala Pro Ser Pro Gln Ser Tyr Arg Leu Ala  
 545 550 555 560  
 Gly Leu Cys Leu Met Glu Asn Lys Arg Tyr Asp Glu Ala Leu Glu Phe  
 565 570 575  
 Leu Cys Met Leu Ser Pro Asn Asp Ser Ile Asn Asp Tyr Lys Thr Gln  
 580 585 590  
 Lys Ala Leu Ala Phe Cys Gln Lys His Gln Ser Lys Asp Arg Ala Ala  
 595 600 605  
 Ser



<210> 754  
 <211> 496  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 754  
 Gly Trp Ala Leu His Thr Glu Phe Ala Pro Phe Leu Glu Asp Leu Val  
 1 5 10 15  
 His Gln Gln Val Ile Ser Pro Leu Asp Ile Ala Phe Ala Ser Lys His  
 20 25 30  
 Ile Ser Ser Asp Phe Glu Glu Ser Phe Val Phe Leu Ala Val Ser Ser  
 35 40 45  
 Ala Leu Trp Arg Tyr Gly His Pro Phe Leu Ser Leu Glu Glu Asn Arg  
 50 55 60  
 Ile Arg Pro Ser Leu Gly Gly Ile Ser Glu Thr Asp Leu Tyr Arg Gly  
 65 70 75 80  
 Phe His Asn Leu Pro Lys Glu Ala Arg Asp Lys Leu Phe Val Val Val  
 85 90 95  
 Ser Gly Arg Leu Tyr Leu Arg Ser Leu Tyr Thr Ile Arg Ser Lys Leu  
 100 105 110  
 Leu Asp Lys Leu Ser Leu Leu Cys Ser Ala Thr Pro Asn Tyr Phe Pro  
 115 120 125  
 Pro Ser Ile Asp Ser Ser Ile Leu Ser Glu Glu Gln Asn Phe Ile Phe  
 130 135 140  
 Asn Lys Ile Thr Gln Gly Cys Phe Ser Ile Val Ser Gly Gly Pro Gly  
 145 150 155 160  
 Thr Gly Lys Thr Phe Leu Ala Ala Gln Leu Ile Leu Ser Leu Val Lys  
 165 170 175  
 Gln Gln Pro Lys Leu Arg Ile Ala Ile Val Ser Pro Thr Gly Lys Ala  
 180 185 190  
 Thr Ser His Ile Arg Gln Ile Leu Met Lys Tyr Asn Ile Phe Asp Asp  
 195 200 205  
 Met Val Leu Met Gln Thr Val His His Phe Leu Gln Glu Tyr Ala Tyr  
 210 215 220  
 Arg Arg Tyr Asn Ser Ile Asp Val Leu Leu Val Asp Glu Gly Ser Met  
 225 230 235 240  
 Val Thr Phe Asp Leu Leu Tyr Ser Leu Val Gln Thr Leu Gln Gly Tyr  
 245 250 255  
 Glu Lys Asp Lys Lys Leu Tyr Thr Ser Ser Leu Ile Ile Leu Gly Asp  
 260 265 270  
 Thr Asn Gln Leu Pro Pro Ile Gly Ile Gly Val Gly Asn Pro Leu Gln  
 275 280 285  
 Asp Leu Ile Gly Tyr Phe His Glu Asn Thr Phe Phe Leu Lys Thr Ser  
 290 295 300  
 His Arg Ala Lys Thr Gly Val Val Asp Gln Leu Thr Gln Ser Val Leu  
 305 310 315 320  
 Arg Gly Glu Met Ile Ser Phe Ser Pro Leu Pro Ser Ile Ser Ser Ala  
 325 330 335  
 Ile Glu Val Leu Lys Asn Arg Phe Val Lys Ser Leu Arg Gln Ser Glu  
 340 345 350  
 Ala Arg Leu Cys Val Leu Thr Pro Met Arg His Gly Pro Trp Gly Val  
 355 360 365  
 Leu Asn Leu Asn Thr Met Ile His Gln Arg Leu Ala Arg Ser Asp Pro  
 370 375 380  
 Asp Leu Arg Ile Pro Ile Met Val Thr Ser Arg Tyr Glu Thr Trp Gly  
 385 390 395 400  
 Leu Phe Asn Gly Asp Thr Gly Leu Leu Cys Leu Lys Thr Gln Lys Leu  
 405 410 415  
 His Phe Pro Gln His Glu Pro Ile Asp Ser Arg Ala Leu Ser Gln Tyr  
 420 425 430

Val	Tyr	Asn	Tyr	Val	Met	Ser	Val	His	Lys	Ser	Gln	Gly	Ser	Glu	Tyr
		435					440					445			
Asp	Glu	Val	Ile	Val	Ile	Ile	Pro	Lys	Gly	Ser	Glu	Val	Phe	Gly	Val
		450				455					460				
Ser	Ile	Leu	Tyr	Thr	Ala	Ile	Thr	Arg	Ala	Lys	Tyr	Arg	Val	Ser	Val
465					470					475					480
Trp	Gly	Asp	Pro	Glu	Thr	Leu	His	Lys	Ile	Ile	Lys	Lys	Ser	Asn	Tyr
				485					490					495	

<210> 755

<211> 283

<212> PRT

<213> Chlamydia pneumoniae

<400> 755

Ile	Met	Ala	Thr	Ala	His	Leu	Gly	Arg	Gln	Ala	Leu	Leu	His	Leu	Arg
1				5					10					15	
Ser	Trp	Thr	Pro	Ala	Ile	Arg	Ala	Ser	Gly	Asn	Leu	Phe	Arg	Gln	Gln
			20				25						30		
Ser	Met	Ser	Leu	His	Asn	Asn	Val	Leu	Phe	Ala	Gly	Asp	Ile	Val	Gly
		35				40						45			
Ala	Ile	Lys	Asn	Ser	Thr	Ala	Ile	Ser	Arg	His	Ala	Leu	Gly	Ser	Ser
	50					55					60				
His	Tyr	Ala	His	Ala	Ala	Leu	Gln	Lys	Thr	Glu	Gly	Phe	Leu	Gly	Ala
65				70						75					80
Ala	Asp	Gly	Val	Asn	Thr	Ala	Val	Ala	Gly	Ala	Met	Leu	Trp	Gly	Gln
				85					90					95	
Leu	Leu	Asn	Gly	Ser	Met	Ile	Phe	Glu	Thr	Asp	Glu	Glu	Thr	Gly	Glu
			100					105					110		
Leu	Arg	Arg	Cys	Asn	Glu	Ala	Asp	Ala	Glu	Gly	Cys	Met	Thr	Gln	Lys
		115					120					125			
Leu	Gln	Arg	Arg	Ser	Ala	Leu	Thr	Ile	Thr	Gly	Lys	Val	Ala	Arg	Leu
	130					135					140				
Ala	Ser	Lys	Thr	Leu	Gly	Thr	Ala	Thr	Phe	Leu	His	Glu	Met	Asp	Val
145					150					155					160
Val	Ser	Leu	Gly	Ala	Asn	Ala	Asn	Lys	Ile	Gly	Cys	Lys	Val	Thr	Ser
				165					170					175	
Cys	Leu	Asn	Leu	Val	Ala	Thr	Gly	Cys	Ser	Leu	Thr	Glu	Ser	Ser	Ile
			180					185					190		
Ser	Leu	Tyr	Arg	Ile	Leu	Ser	Thr	Arg	Pro	Glu	Thr	Ile	Ser	Asp	Pro
		195					200					205			
Glu	Asn	Arg	Asn	Lys	Pro	Ser	Ala	Glu	Phe	Ala	Ala	Arg	Ser	Lys	Ala
	210					215					220				
Ile	Arg	Asn	Ala	Phe	Ile	Ala	Trp	Leu	Gly	Asp	Val	Val	Asp	Leu	Val
225					230					235					240
Cys	Asp	Ala	Leu	Gly	Thr	Leu	Ser	Leu	Phe	Leu	Pro	Ala	Ile	Leu	Gly
				245					250					255	
Val	His	Ala	Val	Leu	Ile	Met	Ala	Ile	Leu	Gly	Leu	Ile	Ser	Cys	Val
			260					265						270	
Ile	Asn	Phe	Val	Lys	Asp	Tyr	Ala	Lys	Ile	Gly					
		275					280								

<210> 756

<211> 114

<212> PRT

<213> Chlamydia pneumoniae

<400> 756

Gln	Phe	Ile	Leu	Asn	Leu	Lys	Val	Leu	Val	Leu	Ser	Gly	Asp	Ile	Met
1				5					10					15	

Ala Pro Lys Lys Pro Asn Lys Lys Asn Val Ile Gln Arg Arg Pro Ser  
20 25 30  
Ala Glu Lys Arg Ile Leu Thr Ala Gln Lys Arg Glu Leu Ile Asn His  
35 40 45  
Ser Phe Lys Ser Lys Val Lys Thr Ile Val Lys Lys Phe Glu Ala Ser  
50 55 60  
Leu Lys Leu Asp Asp Thr Gln Ala Thr Leu Ser Asn Leu Gln Ser Val  
65 70 75 80  
Tyr Ser Val Val Asp Lys Ala Val Lys Arg Gly Ile Phe Lys Asp Asn  
85 90 95  
Lys Ala Ala Arg Ile Lys Ser Lys Ala Thr Leu Lys Val Asn Ala Arg  
100 105 110  
Ala Ser

<210> 757  
<211> 407  
<212> PRT  
<213> Chlamydia pneumoniae

<400> 757  
Tyr Lys Asp Leu Phe Phe Met Leu Leu Val Arg Lys Trp Leu His Thr  
1 5 10 15  
Cys Phe Lys Tyr Trp Ile Tyr Phe Leu Pro Val Val Thr Leu Leu Leu  
20 25 30  
Pro Leu Val Cys Tyr Pro Phe Leu Ser Ile Ser Gln Lys Ile Tyr Gly  
35 40 45  
Tyr Phe Val Phe Thr Thr Ile Ser Ser Leu Gly Trp Phe Phe Ala Leu  
50 55 60  
Arg Arg Arg Glu Asn Gln Leu Lys Thr Ala Ala Val Gln Leu Leu Gln  
65 70 75 80  
Thr Lys Ile Arg Lys Leu Thr Glu Asn Asn Glu Gly Leu Arg Gln Ile  
85 90 95  
Arg Glu Ser Leu Lys Glu His Gln Gln Glu Ser Ala Gln Leu Gln Ile  
100 105 110  
Gln Ser Gln Lys Leu Lys Asn Ser Leu Phe His Leu Gln Gly Leu Leu  
115 120 125  
Val Lys Thr Lys Gly Glu Gly Gln Lys Leu Glu Thr Leu Leu Leu His  
130 135 140  
Arg Thr Glu Glu Asn Arg Cys Leu Lys Met Gln Val Asp Ser Leu Ile  
145 150 155 160  
Gln Glu Cys Gly Glu Lys Thr Glu Glu Val Gln Thr Leu Asn Arg Glu  
165 170 175  
Leu Ala Glu Thr Leu Ala Tyr Gln Gln Ala Leu Asn Asp Glu Tyr Gln  
180 185 190  
Ala Thr Phe Ser Glu Gln Arg Asn Met Leu Asp Lys Arg Gln Ile Tyr  
195 200 205  
Ile Gly Lys Leu Glu Asn Lys Val Gln Asp Leu Met Tyr Glu Ile Arg  
210 215 220  
Asn Leu Leu Gln Leu Glu Ser Asp Ile Ala Glu Asn Ile Pro Ser Gln  
225 230 235 240  
Glu Ser Asn Ala Val Thr Gly Asn Ile Ser Leu Gln Leu Ser Ser Glu  
245 250 255  
Leu Lys Lys Ile Ala Phe Lys Ala Glu Asn Ile Glu Ala Ala Ser Ser  
260 265 270  
Leu Thr Ala Ser Arg Tyr Leu His Thr Asp Thr Ser Val His Asn Tyr  
275 280 285  
Ser Leu Glu Cys Arg Gln Leu Phe Asp Ser Leu Arg Glu Glu Asn Leu  
290 295 300  
Gly Met Leu Phe Val Tyr Ala Arg Gln Ser Gln Arg Ala Val Phe Ala  
305 310 315 320



Lys Ser Gln Glu Ala Lys Lys Glu Met Val Glu Ser Asn Leu Arg Leu  
 340 345 350  
 Val Ile Ser Ile Ala Lys Lys Tyr Thr Asn Arg Gly Leu Ser Phe Leu  
 355 360 365  
 Asp Leu Ile Gln Glu Gly Asn Met Gly Leu Met Lys Ala Val Glu Lys  
 370 375 380  
 Phe Glu Tyr Arg Arg Gly Tyr Lys Phe Ser Thr Tyr Ala Thr Trp Trp  
 385 390 395 400  
 Ile Arg Gln Ala Val Thr Arg Ala Ile Ala Asp Gln Ala Arg Thr Ile  
 405 410 415  
 Arg Ile Pro Val His Met Ile Glu Thr Ile Asn Lys Val Leu Arg Gly  
 420 425 430  
 Ala Lys Lys Leu Met Met Glu Thr Gly Lys Glu Pro Thr Pro Glu Glu  
 435 440 445  
 Leu Ala Glu Glu Leu Gly Leu Thr Pro Asp Arg Val Arg Glu Ile Tyr  
 450 455 460  
 Lys Ile Ala Gln His Pro Ile Ser Leu Gln Ala Glu Val Gly Glu Gly  
 465 470 475 480  
 Ser Glu Ser Ser Phe Gly Asp Phe Leu Glu Asp Thr Ala Val Glu Ser  
 485 490 495  
 Pro Ala Glu Ala Thr Gly Tyr Ser Met Leu Lys Asp Lys Met Lys Glu  
 500 505 510  
 Val Leu Lys Thr Leu Thr Asp Arg Glu Arg Phe Val Leu Ile His Arg  
 515 520 525  
 Phe Gly Leu Leu Asp Gly Lys Pro Lys Thr Leu Glu Glu Val Gly Ser  
 530 535 540  
 Ala Phe Asn Val Thr Arg Glu Arg Ile Arg Gln Ile Glu Ala Lys Ala  
 545 550 555 560  
 Leu Arg Lys Met Arg His Pro Ile Arg Ser Lys Gln Leu Arg Ala Phe  
 565 570 575  
 Leu Asp Leu Leu Glu Glu Glu Lys Thr Gly Thr Ser Lys Val Lys Ser  
 580 585 590  
 Leu Lys Ser Lys  
 595

<210> 759

<211> 142

<212> PRT

<213> Chlamydia pneumoniae

<400> 759

Pro Cys Ile Lys Asn Ile Ala Leu Val Ile Ala Ile Glu Arg Tyr Gln  
 1 5 10 15  
 Leu Ile Ile Ser Lys Phe Arg Met Trp Leu Phe Leu Gly Cys Ser Val  
 20 25 30  
 Glu Glu Arg His Phe Lys Gln Pro Val Leu Ile Ser Val Thr Phe Ser  
 35 40 45  
 Tyr Asn Glu Val Pro Ser Ala Cys Leu Ser Asp Lys Leu Ser Asp Ala  
 50 55 60  
 Cys Cys Tyr Leu Glu Val Thr Ser Leu Ile Glu Glu Ile Ala Asn Thr  
 65 70 75 80  
 Lys Pro Tyr Ala Leu Ile Glu His Leu Ala Asn Glu Leu Phe Asp Ser  
 85 90 95  
 Leu Val Ile Ser Phe Gly Asp Lys Ala Ser Lys Ile Asp Leu Glu Val  
 100 105 110  
 Glu Lys Glu Arg Pro Pro Val Pro Asn Leu Leu Asn Pro Ile Lys Phe  
 115 120 125  
 Thr Ile Ser Lys Glu Leu Cys Pro Ser Pro Val Leu Ser Ala  
 130 135 140

<210> 760  
 <211> 452  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 760  
 Arg Ala Met Ser Glu Pro Arg Phe Val Cys Leu Ser Leu Gly Ser Asn  
 1 5 10 15  
 Leu Gly Asn Arg Phe Lys Asn Leu Gln Ile Ala Arg Thr Leu Leu Gly  
 20 25 30  
 Glu Gln Ala Val Leu Gly Leu Arg Ser Ser Val Ile Leu Glu Thr Glu  
 35 40 45  
 Ala Leu Leu Leu Pro Gly Ser Pro Pro Glu Trp Asp Leu Pro Tyr Phe  
 50 55 60  
 Asn Ser Val Leu Val Gly Glu Thr Thr Leu Ser Leu Arg Glu Leu Leu  
 65 70 75 80  
 Val Thr Ile Lys Gln Ile Glu Lys Val Val Gly Arg Ala Glu Glu Ser  
 85 90 95  
 Pro Pro Trp Ser Pro Arg Thr Ile Asp Val Asp Ile Leu Leu Tyr Gly  
 100 105 110  
 Asp Glu Ser Phe Cys Cys Asp His Thr Glu Ile Thr Ile Pro Leu Ser  
 115 120 125  
 Asn Leu Leu Ser Arg Pro Phe Leu Ile Ala Leu Ile Ala Ser Leu Cys  
 130 135 140  
 Pro Tyr Arg Arg Phe Cys Thr Gln Gly Ser Pro Tyr His Asn Phe Thr  
 145 150 155 160  
 Phe Gly Glu Leu Ala His His Leu Pro Ser Pro Pro Gly Met Ile Arg  
 165 170 175  
 Arg Ser Leu Ser Pro Asp Thr Met Leu Met Gly Val Val Asn Val Thr  
 180 185 190  
 Asn Asp Ser Met Ser Asp Gly Gly Met Phe Leu Asp Pro Glu Lys Ala  
 195 200 205  
 Val Ala Gln Ala Glu Lys Leu Phe Thr Glu Gly Ala Ala Val Ile Asp  
 210 215 220  
 Phe Gly Ala Gln Ala Thr Asn Pro Lys Val Lys Gln Phe Leu Ser Val  
 225 230 235 240  
 Asp Gln Glu Trp Glu Arg Leu Glu Pro Val Leu Arg Leu Leu Lys Glu  
 245 250 255  
 Thr Trp Ser Asn Arg Lys Gln Tyr Pro Ile Ile Ser Leu Asp Thr Phe  
 260 265 270  
 Tyr Pro Glu Ile Ile Leu Arg Ala Met Asp Ile Tyr Pro Ile Gln Trp  
 275 280 285  
 Ile Asn Asp Val Ser Gly Gly Ser Gln Ser Met Ala Glu Val Ala Arg  
 290 295 300  
 Asp Cys Glu Leu Ser Leu Val Met Asn His Ser Ser Ser Leu Pro Val  
 305 310 315 320  
 Asp Pro Lys Asn Ile Leu Ser Phe Ser Val Pro Ile Gly Glu Gln Leu  
 325 330 335  
 Leu Ser Trp Gly Glu Lys Gln Leu Lys Met Phe Ser Asp Val Gly Leu  
 340 345 350  
 Asn Ala Asn Gln Val Ile Phe Asp Pro Gly Ile Gly Phe Gly Lys Gly  
 355 360 365  
 Ala Ala Gln Ser Leu Ala Thr Leu Tyr Glu Ile Ala Lys Phe Lys Arg  
 370 375 380  
 Leu Gly Cys Pro Ile Leu Ile Gly His Ser Arg Lys Ser Phe Leu Ser  
 385 390 395 400  
 Leu Phe Gly Asn His Asp Pro Lys Asp Arg Asp Trp Glu Thr Val Gly  
 405 410 415  
 Leu Ser Ile Leu Leu Gln Gln Gln Gly Val Asp Tyr Leu Arg Val His  
 420 425 430

Asn Val Ala Ala His Gln Lys Ala Leu Ser Val Ala Ala Cys Glu Ala  
 435 440 445  
 Cys Ala Pro Ile  
 450

<210> 761  
 <211> 188  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 761  
 Leu Leu Val Lys Pro Val His Pro Ser Asn Phe Glu Asn Pro Leu Gly  
 1 5 10 15  
 Val Glu Met Cys Lys Asn Arg Gly Val Arg Gly Ile Val Ala Cys Asp  
 20 25 30  
 Pro Arg Gly Val Ile Gly Leu Glu Gly Lys Leu Pro Trp His Tyr Pro  
 35 40 45  
 Glu Asp Leu Gln Phe Phe Ser Glu Thr Ile Gln Lys Phe Pro Ile Val  
 50 55 60  
 Met Gly Arg Lys Thr Trp Glu Thr Leu Pro Arg Lys Tyr Phe Val Asp  
 65 70 75 80  
 Arg Ala Val Val Val Phe Ser His Glu Lys Arg Gln Gly Val His Gly  
 85 90 95  
 Glu Ile Trp Val Thr Ser Leu Glu Glu Phe Leu Leu Leu Asp Leu Ser  
 100 105 110  
 Ser Pro Thr Phe Leu Ile Gly Gly Gly Glu Leu Tyr Ser Leu Phe Leu  
 115 120 125  
 Glu Asn Gln Ile Val Arg Asp Phe Phe Ile Ser His Ile Lys Lys Glu  
 130 135 140  
 Tyr Ala Gly Asp Thr Phe Phe Pro Leu Ser Leu Leu Glu Thr Trp Thr  
 145 150 155 160  
 Lys Thr Val Leu Arg Asp Thr Gln Lys Ile Thr Thr Cys Tyr Tyr Glu  
 165 170 175  
 Asn His His Ser Gln Asn Thr Lys Asn Ile Ser Leu  
 180 185

<210> 762  
 <211> 264  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 762  
 Arg His Gly Pro Lys Leu Cys Leu Glu Ile Pro Lys Arg Ser Gln Arg  
 1 5 10 15  
 Val Thr Met Lys Ile Thr Thr Val Lys Thr Pro Lys Ile Tyr Pro Tyr  
 20 25 30  
 Asp Asp Leu Tyr Ser Ile Leu Glu Ser Ser Leu Pro Lys Leu Asn Glu  
 35 40 45  
 Arg Ser Ile Val Val Ile Thr Ser Lys Ile Val Ser Leu Cys Glu Gly  
 50 55 60  
 Ala Val Val Glu Leu Glu Lys Val Ser Lys Asp Glu Leu Ile Lys Gln  
 65 70 75 80  
 Glu Ala Asp Ala Tyr Val Phe Val Glu Lys Tyr Gly Ile Tyr Leu Thr  
 85 90 95  
 Lys Lys Trp Gly Ile Leu Ile Pro Ser Ala Gly Ile Asp Glu Ser Asn  
 100 105 110  
 Val Glu Gly Tyr Phe Val Leu Tyr Pro Arg Asp Phe Leu Leu Ser Val  
 115 120 125  
 Asn Thr Leu Gly Asp Trp Leu Arg Asn Phe Tyr His Leu Glu His Cys  
 130 135 140

Gly	Ile	Ile	Ile	Ser	Asp	Ser	His	Thr	Thr	Pro	Leu	Arg	Arg	Gly	Thr
145					150					155					160
Met	Gly	Leu	Gly	Leu	Cys	Trp	Asn	Gly	Phe	Phe	Pro	Leu	Tyr	Asn	Tyr
				165					170					175	
Val	Gly	Lys	Pro	Asp	Cys	Phe	Gly	Arg	Ala	Leu	Lys	Met	Thr	Tyr	Ser
			180					185					190		
Asn	Leu	Leu	Asp	Gly	Leu	Ser	Ala	Ala	Ala	Val	Leu	Cys	Met	Gly	Glu
		195					200					205			
Gly	Asp	Glu	Gln	Thr	Pro	Ile	Ala	Ile	Ile	Glu	Glu	Ala	Pro	Lys	Ile
	210					215					220				
Thr	Phe	His	Ser	Ser	Pro	Thr	Thr	Leu	Gln	Asp	Met	Ser	Thr	Leu	Ala
225					230					235					240
Ile	Ala	Glu	Asp	Glu	Asp	Leu	Tyr	Gly	Pro	Leu	Leu	Gln	Ser	Met	Ala
			245						250					255	
Trp	Glu	Thr	Pro	Ala	Pro	Thr	Ser								
			260												

<210> 763

<211> 226

<212> PRT

<213> Chlamydia pneumoniae

<400> 763

Gly	Ile	Met	Thr	Ser	Trp	Ile	Glu	Leu	Leu	Asp	Lys	Gln	Ile	Glu	Asp
1				5					10					15	
Gln	His	Met	Leu	Lys	His	Glu	Phe	Tyr	Gln	Arg	Trp	Ser	Glu	Gly	Lys
			20					25					30		
Leu	Glu	Lys	Gln	Gln	Leu	Gln	Ala	Tyr	Ala	Lys	Asp	Tyr	Tyr	Leu	His
		35					40					45			
Ile	Lys	Ala	Phe	Pro	Cys	Tyr	Leu	Ser	Ala	Leu	His	Ala	Arg	Cys	Asp
	50					55					60				
Asp	Leu	Gln	Ile	Arg	Arg	Gln	Ile	Leu	Glu	Asn	Leu	Met	Asp	Glu	Glu
65					70					75				80	
Ala	Gly	Asn	Pro	Asn	His	Ile	Asp	Leu	Trp	Arg	Gln	Phe	Ala	Leu	Ser
				85					90					95	
Leu	Gly	Val	Ser	Glu	Glu	Glu	Leu	Ala	Asn	His	Glu	Phe	Ser	Gln	Ala
			100					105						110	
Ala	Gln	Asp	Met	Val	Ala	Thr	Phe	Arg	Arg	Leu	Cys	Asp	Met	Pro	Gln
		115					120					125			
Leu	Ala	Val	Gly	Leu	Gly	Ala	Leu	Tyr	Thr	Tyr	Glu	Ile	Gln	Ile	Pro
	130					135					140				
Gln	Val	Cys	Val	Glu	Lys	Ile	Arg	Gly	Leu	Lys	Glu	Tyr	Phe	Gly	Val
145					150					155					160
Ser	Ala	Arg	Gly	Tyr	Ala	Tyr	Phe	Thr	Val	His	Gln	Glu	Ala	Asp	Ile
			165						170					175	
Lys	His	Ala	Ser	Glu	Glu	Lys	Glu	Met	Leu	Gln	Thr	Leu	Val	Gly	Arg
			180					185					190		
Glu	Asn	Pro	Asp	Ala	Val	Leu	Gln	Gly	Ser	Gln	Glu	Val	Leu	Asp	Thr
		195					200					205			
Leu	Trp	Asn	Phe	Leu	Ser	Ser	Phe	Ile	Asn	Ser	Thr	Glu	Pro	Cys	Ser
	210					215					220				
Cys	Lys														
225															

<210> 764

<211> 380

<212> PRT

<213> Chlamydia pneumoniae



<400> 764

Glu	Glu	Leu	Leu	Tyr	Phe	Ser	Arg	Phe	Ser	Glu	Lys	Gln	Asn	Tyr	Ser	1	5	10	15
Leu	Gly	Asn	Met	Glu	Thr	Lys	Arg	Ser	Ile	Tyr	Met	Asn	Leu	Pro	Asp	20	25	30	
Arg	Lys	Lys	Ala	Leu	Glu	Ala	Ala	Val	Ala	Tyr	Ile	Glu	Lys	Gln	Phe	35	40	45	
Gly	Ala	Gly	Ser	Ile	Met	Ser	Leu	Gly	Arg	His	Ser	Ala	Thr	His	Glu	50	55	60	
Ile	Ser	Thr	Ile	Lys	Thr	Gly	Ala	Leu	Ser	Leu	Asp	Leu	Ala	Leu	Gly	65	70	75	80
Ile	His	Gly	Val	Pro	Lys	Gly	Arg	Val	Ile	Glu	Ile	Phe	Gly	Pro	Glu	85	90	95	
Ser	Ser	Gly	Lys	Thr	Thr	Leu	Ala	Thr	His	Ile	Val	Ala	Asn	Ala	Gln	100	105	110	
Lys	Met	Gly	Gly	Val	Ala	Ala	Tyr	Ile	Asp	Ala	Glu	His	Ala	Leu	Asp	115	120	125	
Pro	Ser	Tyr	Ala	Ser	Leu	Ile	Gly	Val	Asn	Ile	Asp	Asp	Leu	Met	Ile	130	135	140	
Ser	Gln	Pro	Asp	Cys	Gly	Glu	Asp	Ala	Leu	Ser	Ile	Ala	Glu	Leu	Leu	145	150	155	160
Ala	Arg	Ser	Gly	Ala	Val	Asp	Val	Ile	Val	Ile	Asp	Ser	Val	Ala	Ala	165	170	175	
Leu	Val	Pro	Lys	Ser	Glu	Leu	Glu	Gly	Asp	Ile	Gly	Asp	Val	His	Val	180	185	190	
Gly	Leu	Gln	Ala	Arg	Met	Met	Ser	Gln	Ala	Leu	Arg	Lys	Leu	Thr	Ala	195	200	205	
Thr	Leu	Ser	Arg	Ser	Gln	Thr	Cys	Ala	Val	Phe	Ile	Asn	Gln	Ile	Arg	210	215	220	
Glu	Lys	Ile	Gly	Val	Ser	Phe	Gly	Asn	Pro	Glu	Thr	Thr	Thr	Gly	Gly	225	230	235	240
Arg	Ala	Leu	Lys	Phe	Tyr	Ser	Ser	Ile	Arg	Leu	Asp	Ile	Arg	Arg	Ile	245	250	255	
Gly	Ser	Ile	Lys	Gly	Ser	Asp	Asn	Ser	Asp	Ile	Gly	Asn	Arg	Ile	Lys	260	265	270	
Val	Lys	Val	Ala	Lys	Asn	Lys	Leu	Ala	Pro	Pro	Phe	Arg	Ile	Ala	Glu	275	280	285	
Phe	Asp	Ile	Leu	Phe	Asn	Glu	Gly	Ile	Ser	Ser	Ala	Gly	Cys	Ile	Leu	290	295	300	
Asp	Leu	Ala	Val	Glu	Tyr	Asn	Ile	Ile	Glu	Lys	Lys	Gly	Ser	Trp	Phe	305	310	315	320
Asn	Tyr	Gln	Glu	Lys	Lys	Leu	Gly	Gln	Gly	Arg	Glu	Phe	Val	Arg	Glu	325	330	335	
Glu	Leu	Lys	Arg	Asn	Arg	Lys	Leu	Phe	Glu	Glu	Ile	Glu	Lys	Arg	Ile	340	345	350	
Tyr	Asp	Val	Ile	Ala	Ala	Asn	Lys	Thr	Pro	Ser	Val	His	Ala	Asn	Glu	355	360	365	
Thr	Pro	Gln	Glu	Val	Pro	Ala	Gln	Thr	Val	Glu	Ala					370	375	380	

<210> 765

<211> 183

<212> PRT

<213> Chlamydia pneumoniae

<400> 765

Asn	Phe	Pro	Met	Thr	Asp	Pro	Lys	Ile	Glu	Lys	Ser	Ala	Leu	Arg	Lys	1	5	10	15
Leu	Phe	Ile	Ser	Ile	Arg	Arg	Asp	Leu	Ser	Glu	Glu	Arg	Lys	His	Glu	20	25	30	

Ala	Ser	Ser	Ala	Val	Ala	Ser	Phe	Val	Arg	Ser	Phe	Ser	Lys	Glu	Ser
		35					40					45			
Val	Val	Leu	Ser	Phe	Val	Ser	Phe	Asn	His	Glu	Ile	Asp	Met	Gln	Glu
	50					55					60				
Ala	Asn	Arg	Ile	Leu	Ile	Gln	Lys	Cys	Thr	Leu	Ala	Leu	Pro	Lys	Ile
65					70					75					80
Asp	Gln	Glu	Asn	Leu	Tyr	Pro	Val	Leu	Ile	Pro	Ser	Ile	Asp	Asp	Leu
			85						90					95	
Ile	Ser	Val	Val	His	Pro	Lys	Asp	Pro	Phe	Ser	Lys	Gln	Thr	Pro	Ile
			100					105					110		
Ser	Ser	Asp	Lys	Ile	Thr	His	Val	Leu	Val	Pro	Gly	Leu	Ala	Phe	Asp
		115						120				125			
Gln	Gln	Gly	Tyr	Arg	Leu	Gly	Tyr	Gly	His	Gly	Phe	Tyr	Asp	Arg	Trp
	130					135					140				
Leu	Ala	Gln	His	Pro	Tyr	Pro	Ser	Ile	Arg	Thr	Ile	Gly	Ile	Gly	Tyr
145					150					155					160
Cys	Glu	Gln	Lys	Ile	Asp	Arg	Leu	Pro	Gln	Glu	Ser	His	Asp	Ile	Pro
				165					170					175	
Leu	Ser	Gln	Ile	Tyr	Leu	Cys									
			180												

<210> 766

<211> 432

<212> PRT

<213> Chlamydia pneumoniae

<400> 766

Gly	Tyr	Lys	Ser	Met	Asp	Ile	Lys	Lys	Leu	Phe	Cys	Leu	Phe	Leu	Cys
1				5					10					15	
Ser	Ser	Leu	Ile	Ala	Met	Ser	Pro	Ile	Tyr	Gly	Lys	Thr	Gly	Asp	Tyr
			20					25					30		
Glu	Lys	Leu	Thr	Leu	Thr	Gly	Ile	Asn	Ile	Ile	Asp	Arg	Asn	Gly	Leu
		35					40					45			
Ser	Glu	Thr	Ile	Cys	Ser	Lys	Glu	Lys	Leu	Lys	Lys	Tyr	Thr	Lys	Val
	50					55					60				
Asp	Phe	Leu	Ala	Pro	Gln	Pro	Tyr	Gln	Lys	Val	Met	Arg	Met	Tyr	Lys
65					70					75					80
Asn	Lys	Arg	Gly	Asp	Asn	Val	Ser	Cys	Leu	Thr	Ala	Tyr	His	Thr	Asn
				85					90					95	
Gly	Gln	Ile	Lys	Gln	Tyr	Leu	Glu	Cys	Leu	Asn	Asn	Arg	Ala	Tyr	Gly
			100					105					110		
Arg	Tyr	Arg	Glu	Trp	His	Val	Asn	Gly	Asn	Ile	Lys	Ile	Gln	Ala	Glu
		115					120					125			
Val	Ile	Gly	Gly	Ile	Ala	Asp	Leu	His	Pro	Ser	Ala	Glu	Ser	Gly	Trp
	130					135					140				
Leu	Phe	Asp	Gln	Thr	Thr	Phe	Ala	Tyr	Asn	Asp	Glu	Gly	Ile	Leu	Glu
145					150					155					160
Ala	Ala	Ile	Val	Tyr	Glu	Lys	Gly	Leu	Leu	Glu	Gly	Ser	Ser	Val	Tyr
				165					170					175	
Tyr	His	Thr	Asn	Gly	Asn	Ile	Trp	Lys	Glu	Cys	Pro	Tyr	His	Lys	Gly
			180					185					190		
Val	Pro	Gln	Gly	Lys	Phe	Leu	Thr	Tyr	Thr	Ser	Ser	Gly	Lys	Leu	Leu
		195					200					205			
Lys	Glu	Gln	Asn	Tyr	Gln	Gln	Gly	Lys	Arg	His	Gly	Leu	Ser	Ile	Arg
	210					215					220				
Tyr	Ser	Glu	Asp	Ser	Glu	Glu	Asp	Val	Leu	Ala	Trp	Glu	Glu	Tyr	His
225					230					235					240
Glu	Gly	Arg	Leu	Leu	Lys	Ala	Glu	Tyr	Leu	Asp	Pro	Gln	Thr	His	Glu
				245					250					255	
Ile	Tyr	Ala	Thr	Ile	His	Glu	Gly	Asn	Gly	Ile	Gln	Ala	Ile	Tyr	Gly
			260					265						270	

Lys	Tyr	Ala	Val	Ile	Glu	Thr	Arg	Ala	Phe	Tyr	Arg	Gly	Glu	Pro	Tyr	275	280	285
Gly	Lys	Val	Thr	Arg	Phe	Asp	Asn	Ser	Gly	Thr	Gln	Ile	Val	Gln	Thr	290	295	300
Tyr	Asn	Leu	Leu	Gln	Gly	Ala	Lys	His	Gly	Glu	Glu	Phe	Phe	Phe	Tyr	305	310	315
Pro	Glu	Thr	Gly	Lys	Pro	Lys	Leu	Leu	Leu	Asn	Trp	His	Glu	Gly	Ile	325	330	335
Leu	Asn	Gly	Ile	Val	Lys	Thr	Trp	Tyr	Pro	Gly	Gly	Thr	Leu	Glu	Ser	340	345	350
Cys	Lys	Glu	Leu	Val	Asn	Asn	Lys	Lys	Ser	Gly	Leu	Leu	Thr	Ile	Tyr	355	360	365
Tyr	Pro	Glu	Gly	Gln	Ile	Met	Ala	Thr	Glu	Glu	Tyr	Asp	Asn	Asp	Leu	370	375	380
Leu	Ile	Lys	Gly	Glu	Tyr	Phe	Arg	Pro	Gly	Asp	Arg	His	Pro	Tyr	Ser	385	390	395
Lys	Ile	Asp	Arg	Gly	Cys	Gly	Thr	Ala	Val	Phe	Phe	Ser	Ser	Ala	Gly	405	410	415
Thr	Ile	Thr	Lys	Lys	Ile	Pro	Tyr	Gln	Asp	Gly	Lys	Pro	Leu	Leu	Asn	420	425	430

<210> 767  
 <211> 205  
 <212> PRT  
 <213> Chlamydia pneumoniae

Thr	Thr	Ile	Tyr	Ile	Lys	Leu	Leu	Gly	Arg	Leu	Met	Lys	Lys	Trp	Ile	1	5	10	15
Ser	Ile	Leu	Ile	Leu	Ser	Phe	Leu	Ser	Leu	Leu	Ser	Ile	Leu	Pro	Val	20	25	30	
Leu	Ala	Ile	Thr	Ile	Asn	His	Val	Lys	Ile	Ser	Gln	Arg	Trp	Ser	Asp	35	40	45	
Leu	Asn	Ser	Gln	Ile	Leu	Thr	Leu	Lys	Val	Ile	Arg	Asp	His	Glu	Asp	50	55	60	
Gln	Val	Ile	Lys	His	Asn	Ala	Arg	Ile	Ser	Lys	Asp	Arg	Asn	Asn	Leu	65	70	75	80
Ser	Ile	Glu	Ser	Leu	Asn	Ala	Ser	Cys	Lys	Gln	Leu	Arg	Pro	Leu	Ser	85	90	95	
Lys	Glu	Arg	Glu	Arg	Leu	Asn	Lys	Leu	Asn	Ser	Asn	Ser	Leu	Leu	Ala	100	105	110	
Gln	Ser	Lys	Glu	Val	Trp	Glu	Arg	Lys	Arg	Ala	Leu	Glu	Lys	Ser	Asn	115	120	125	
His	Gln	Leu	Val	Trp	Asn	Cys	Glu	Gln	Met	His	Asn	Asp	Phe	Ala	Phe	130	135	140	
Val	Arg	Leu	Glu	Gln	Ala	Thr	Glu	Met	Asp	Asn	Glu	Asp	Ile	Glu	Ser	145	150	155	160
Leu	Phe	Ser	Leu	Phe	Asn	Pro	Glu	Asn	Pro	Val	Ala	Pro	Leu	Val	Phe	165	170	175	
Phe	Thr	Cys	Trp	Lys	Met	Thr	Lys	Gln	Thr	Thr	Pro	Leu	Gly	Asn	Glu	180	185	190	
Val	Trp	Leu	Thr	His	Ala	Glu	Ala	Ile	Ser	Arg	Trp	Ile				195	200	205	

<210> 768  
 <211> 464  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 768

Ala	Met	Asn	Phe	Lys	Leu	Pro	Val	Tyr	His	Ile	Gly	Leu	Thr	Lys	Ala	1	5	10	15
Glu	Asn	Asn	Thr	Ile	Lys	Ile	Ala	Ile	Leu	Gln	Lys	Thr	Cys	Lys	Gly	20	25	30	
Trp	Ile	Val	Cys	His	Cys	Glu	Gln	Ile	Pro	Glu	Gly	Lys	Thr	Trp	Ser	35	40	45	
Leu	Pro	Lys	Lys	Tyr	Phe	Ala	Ala	Pro	Thr	Thr	Phe	Ser	Leu	Gln	Gly	50	55	60	
Ser	Asp	Ile	Leu	Val	Lys	Ser	Ser	Ser	Ser	Ser	Leu	Lys	Asn	Arg	Lys	65	70	75	80
Asn	Ile	Leu	Lys	Val	Ala	Leu	Thr	Asn	Leu	Glu	Ala	Ser	Leu	Ala	Leu	85	90	95	
Pro	Trp	Glu	Ser	Leu	Ile	Val	Gln	Pro	Gln	Leu	Gly	Lys	Pro	Thr	Asp	100	105	110	
Arg	Gly	Glu	Thr	Pro	Leu	Thr	Leu	Trp	Ile	Ala	Gln	Lys	Asn	Thr	Leu	115	120	125	
Lys	Lys	Glu	Leu	Ser	Phe	Leu	Ser	Gln	Ala	Gln	Ile	Phe	Pro	Asp	Lys	130	135	140	
Leu	Ser	Cys	Arg	Ala	Ala	Asp	Ile	Phe	Phe	Leu	Ala	Glu	Gln	Ser	Pro	145	150	155	160
Leu	Lys	Ser	Leu	Pro	Ala	Tyr	Leu	Leu	Ile	Tyr	Gly	Gly	Ser	Glu	Glu	165	170	175	
Val	Thr	Cys	Ile	Phe	Val	Lys	Asn	His	Ala	Ile	Ala	Val	Ala	Arg	Ser	180	185	190	
Phe	Ser	Asn	His	Ser	Thr	Lys	Lys	Ser	Cys	Asp	Asp	Ile	His	Ala	Thr	195	200	205	
Leu	Gln	Tyr	Ile	Gln	Glu	Thr	Phe	Pro	Gln	Thr	Val	Leu	Pro	Ala	Ile	210	215	220	
His	Val	Ala	Gln	Ile	Ser	Pro	Asn	Leu	Gln	Lys	Ile	Leu	Glu	Gln	Lys	225	230	235	240
Leu	Ser	Leu	Pro	Leu	Val	Val	Cys	Gln	Ser	Met	Thr	Tyr	Gly	Val	Glu	245	250	255	
Asp	Glu	Asp	Trp	Glu	Ile	Tyr	Gly	Asp	Thr	Ile	Ala	Ala	Ala	His	His	260	265	270	
Gly	Ala	Ser	Arg	Arg	Pro	Leu	Thr	Phe	Pro	Tyr	Asp	Ala	Thr	Ser	Val	275	280	285	
Ser	Pro	Ala	Ala	Gln	Lys	His	Trp	Leu	Leu	Arg	Ser	Ser	Leu	Leu	Ile	290	295	300	
Gly	Lys	Tyr	Ala	Leu	Met	Ala	Thr	Val	Val	Val	Ser	Leu	Gly	Ser	Val	305	310	315	320
Leu	Lys	Leu	Lys	Ser	Leu	Ser	Ser	Ser	Ala	Ser	Asn	His	Phe	Ala	Phe	325	330	335	
Ala	Cys	Pro	Glu	Gly	Val	Leu	Pro	Arg	Ser	Leu	Lys	Ala	Ala	Glu		340	345	350	
Lys	Thr	Val	Lys	Ala	Ile	Gly	Lys	Lys	Asn	Ser	Ala	Ser	Asn	Tyr	Pro	355	360	365	
Leu	Leu	Pro	Thr	Ile	Pro	Thr	Ser	Glu	Gln	Thr	Leu	Lys	Phe	Leu	Leu	370	375	380	
Ala	Leu	Gly	Lys	Ser	Ser	Pro	Ser	Ile	Lys	Phe	Ser	Tyr	Phe	Ser	Tyr	385	390	395	400
Thr	Met	Thr	Ser	Tyr	Pro	Ser	Lys	Asp	Asn	Pro	Ser	Leu	Pro	Tyr	Ser	405	410	415	
Ala	Leu	Val	Glu	Val	Lys	Gly	Gln	Gly	Gln	Pro	Glu	Asp	Ile	Pro	Gln	420	425	430	
Phe	Leu	Lys	Lys	Ile	Ser	Ser	His	Pro	Lys	Leu	Gln	His	Val	Ser	Glu	435	440	445	
Ser	Leu	Glu	Asp	Gln	Arg	Ser	Phe	Lys	Leu	Gln	Phe	Thr	Leu	Ser	Ser	450	455	460	

<210> 769  
 <211> 100  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 769  
 Asn Ile Met Leu Ser Tyr Leu Leu Arg Thr Ala Ile Asn Val Tyr Ser  
 1 5 10 15  
 Phe Leu Ile Leu Ala Tyr Ile Phe Ala Ser Trp Val Pro Asp Cys Gln  
 20 25 30  
 Ser Ala Arg Trp Tyr Gln Leu Val Ser Lys Cys Val Asp Pro Phe Leu  
 35 40 45  
 Asn Phe Phe Arg Arg Phe Val Pro Arg Ile Gly Phe Ile Asp Pro Ser  
 50 55 60  
 Pro Phe Val Gly Leu Leu Cys Leu Gly Ile Leu Pro Phe Val Ile Leu  
 65 70 75 80  
 Arg Val Leu Arg Phe Ile Ile Leu Asn Ile Phe His Ser Pro Trp Leu  
 85 90 95  
 Leu Gln Tyr Leu  
 100

<210> 770  
 <211> 340  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 770  
 Tyr Phe Ser Phe Ser Met Ala Ala Pro Ile Phe Ile Lys Asn Ile Leu  
 1 5 10 15  
 Leu Arg Ser Ser Ile Val Tyr Ala Pro Leu Ala Gly Phe Ser Asp Tyr  
 20 25 30  
 Pro Tyr Arg Cys Met Ser Ala Leu Tyr Gln Pro Gly Leu Met Phe Cys  
 35 40 45  
 Glu Met Val Lys Val Glu Gly Ile Leu Tyr Ala Pro Glu Arg Thr Ser  
 50 55 60  
 Lys Leu Leu Asp Tyr Asn Glu Asn Met Arg Pro Ile Gly Ala Gln Leu  
 65 70 75 80  
 Cys Gly Ser Asn Pro Glu Thr Ser Gly Glu Ala Ala Lys Ile Leu Glu  
 85 90 95  
 Gly Leu Gly Phe Asp Leu Ile Asp Leu Asn Cys Gly Cys Pro Thr Asp  
 100 105 110  
 Lys Ile Thr Lys Asp Gly Ser Gly Ser Gly Leu Leu Lys Thr Pro Glu  
 115 120 125  
 Leu Ile Gly Arg Ile Leu Asp Lys Ile Ile Asn Ser Val Ser Ile Pro  
 130 135 140  
 Val Thr Val Lys Ile Arg Ser Gly Trp Asp Met Glu His Ile Asn Val  
 145 150 155 160  
 Glu Asp Thr Val Arg Ile Ile Arg Asp Ala Gly Ala Ser Ala Val Phe  
 165 170 175  
 Val His Gly Arg Thr Arg Ala Gln Gly Tyr His Gly Pro Ser Lys Gln  
 180 185 190  
 Glu Tyr Ile Ser Arg Ala Lys Ala Ala Ala Gly Lys Glu Phe Pro Val  
 195 200 205  
 Phe Gly Asn Gly Asp Ile Phe Ser Pro Glu Ala Ala Gln Ala Met Leu  
 210 215 220  
 Thr Thr Gly Cys Asp Gly Val Leu Val Ala Arg Gly Thr Leu Gly Ala  
 225 230 235 240  
 Pro Trp Ile Gly Lys Gln Ile Gln Asp Tyr Leu Thr Thr Gly Ser Tyr  
 245 250 255  
 Glu Lys Ile Pro Phe Ile Lys Arg Lys Ala Ala Phe Leu Glu His Met  
 260 265 270

Arg Leu Val Glu Asp Tyr Tyr Gln Ser Glu Thr Lys Phe Leu Ser Glu  
 275 280 285  
 Thr Arg Lys Leu Cys Gly His Tyr Leu Ile Ser Ala Ala Lys Val Arg  
 290 295 300  
 Phe Leu Arg Ser Ser Leu Ala Lys Ala Thr Ser Tyr Gln Glu Val Tyr  
 305 310 315 320  
 Gln Leu Val Asn Asp Tyr Glu Glu Ala Asp Asp Ser Ser Leu Glu Thr  
 325 330 335  
 Phe Val Lys Cys  
 340

<210> 771

<211> 881

<212> PRT

<213> Chlamydia pneumoniae

<400> 771

Ser Ile Gln Gly Pro His Ala Ile Arg Leu Met Lys Lys Ser Leu Ile  
 1 5 10 15  
 Ile Val Glu Ser Pro Ala Lys Ile Lys Thr Leu Gln Lys Leu Leu Gly  
 20 25 30  
 Ser Glu Phe Val Phe Ala Ser Ser Ile Gly His Ile Val Asp Leu Pro  
 35 40 45  
 Ala Lys Glu Phe Gly Ile Asp Val Asp His Asp Phe Glu Pro Gln Tyr  
 50 55 60  
 Gln Val Leu Pro Asp Lys Gln Glu Val Ile Asn His Ile Arg Lys Leu  
 65 70 75 80  
 Ala Ala Lys Cys Glu Lys Val Tyr Leu Ser Pro Asp Pro Asp Arg Glu  
 85 90 95  
 Gly Glu Ala Ile Ala Trp His Ile Ala Asn Gln Leu Pro Asp Ser Pro  
 100 105 110  
 Leu Ile Gln Arg Val Ser Phe Asn Ala Ile Thr Lys Asn Ala Val Thr  
 115 120 125  
 Glu Ala Leu Lys His Pro Arg Thr Ile Asp Met Ala Leu Val Asn Ala  
 130 135 140  
 Gln Gln Ala Arg Arg Leu Leu Asp Arg Ile Val Gly Tyr Lys Ile Ser  
 145 150 155 160  
 Pro Ile Leu Ser Arg Lys Leu Gln Gln Arg Ser Gly Ile Ser Ala Gly  
 165 170 175  
 Arg Val Gln Ser Val Ala Leu Lys Leu Val Val Asp Arg Glu Lys Ala  
 180 185 190  
 Ile Asp Ala Phe Val Pro Val Glu Tyr Trp Asn Leu Arg Val Leu Met  
 195 200 205  
 Gln Asp Pro Lys Thr Thr Lys Thr Phe Trp Ala His Leu Tyr Ala Val  
 210 215 220  
 Gln Gly Lys Lys Trp Glu Lys Glu Ile Pro Glu Gly Lys Thr Glu Asn  
 225 230 235 240  
 Asp Val Leu Leu Ile Asn Ser Glu Glu Lys Ala Arg His Tyr Ala Glu  
 245 250 255  
 Leu Leu Glu Lys Ser Ser Tyr Thr Ile Thr Arg Val Glu Ala Lys Ala  
 260 265 270  
 Lys Arg Arg Phe Ala Pro Pro Pro Phe Ile Thr Ser Thr Leu Gln Gln  
 275 280 285  
 Glu Ala Ser Arg His Phe Arg Phe Ser Ala Ser Arg Thr Met Ser Ile  
 290 295 300  
 Ala Gln Thr Leu Tyr Glu Gly Val Asp Leu Asp Ser Glu Asp Ser Thr  
 305 310 315 320  
 Gly Leu Ile Thr Tyr Met Arg Thr Asp Ser Val Arg Val Asp Pro Glu  
 325 330 335  
 Ala Leu Thr Thr Val Arg Glu Tyr Ile Gln Gln Thr Phe Gly Lys Glu  
 340 345 350

Tyr	Leu	Pro	Glu	Lys	Ala	Asn	Val	Tyr	Thr	Thr	Lys	Lys	Met	Thr	Gln
		355					360					365			
Asp	Ala	His	Glu	Ala	Ile	Arg	Pro	Thr	Asp	Ile	Asn	Leu	Thr	Pro	Asp
		370				375					380				
Lys	Leu	Lys	Asn	Lys	Leu	Ser	Asp	Asp	Gln	Phe	Lys	Val	Tyr	Asn	Leu
385					390					395					400
Ile	Trp	Lys	Arg	Phe	Val	Ala	Ser	Gln	Ile	Thr	Pro	Ala	Ile	Tyr	Asp
				405					410					415	
Thr	Leu	Ala	Val	Gln	Ile	Thr	Thr	Asp	Thr	Glu	Ile	Asp	Leu	Arg	Ala
			420					425					430		
Ser	Gly	Ser	Leu	Leu	Lys	Phe	Lys	Gly	Phe	Leu	Ala	Val	Tyr	Glu	Glu
		435					440					445			
Lys	Gln	Asp	Asp	Glu	Asn	Asp	Gln	Glu	Glu	Asp	His	Pro	Leu	Pro	Pro
	450					455					460				
Leu	His	Ala	Gln	Asp	Ala	Leu	Ile	Lys	Glu	Glu	Val	Ser	Gln	Glu	Gln
465					470					475					480
Ala	Phe	Thr	Lys	Pro	Leu	Pro	Arg	Phe	Thr	Glu	Ala	Ser	Leu	Val	Lys
				485					490					495	
Glu	Leu	Glu	Lys	Ser	Gly	Ile	Gly	Arg	Pro	Ser	Thr	Tyr	Ala	Thr	Ile
			500					505						510	
Met	Asn	Lys	Ile	Gln	Ser	Arg	Glu	Tyr	Thr	Thr	Lys	Glu	Asn	Gln	Arg
		515					520					525			
Leu	Arg	Pro	Thr	Glu	Leu	Gly	Lys	Ile	Ile	Ser	Gln	Phe	Leu	Glu	Thr
	530					535					540				
Asn	Phe	Pro	Arg	Ile	Met	Asp	Ile	Gly	Phe	Thr	Ala	Leu	Met	Glu	Asp
545					550					555					560
Glu	Leu	Glu	Leu	Ile	Ala	Asp	Asn	Lys	Lys	Pro	Trp	Lys	Leu	Leu	Leu
				565					570					575	
Gln	Glu	Phe	Trp	Thr	Thr	Phe	Leu	Pro	Val	Val	Ile	Thr	Ala	Glu	Lys
			580					585						590	
Glu	Ala	Val	Ile	Pro	Arg	Ile	Leu	Thr	Asn	Ile	Glu	Cys	Ser	Lys	Cys
		595					600					605			
His	Lys	Gly	Lys	Leu	Val	Lys	Ile	Trp	Ser	Lys	Asn	Ser	Tyr	Phe	Tyr
	610					615					620				
Gly	Cys	Ser	Glu	Tyr	Pro	Glu	Cys	Asp	Tyr	Arg	Thr	Ser	Glu	Glu	Glu
625					630					635					640
Leu	Ala	Phe	Asn	Lys	Glu	Asp	Tyr	Ala	Glu	Asp	Thr	Pro	Trp	Asp	Ser
				645					650					655	
Pro	Cys	Pro	Leu	Cys	Gly	Gly	Val	Met	Lys	Val	Arg	His	Gly	Arg	Tyr
		660						665					670		
Gly	Thr	Phe	Leu	Gly	Cys	Glu	Lys	Tyr	Pro	Glu	Cys	Arg	Gly	Thr	Ile
	675					680						685			
Ser	Ile	His	Lys	Lys	Gly	Glu	Ile	Glu	Gln	Glu	Glu	Pro	Ile	Pro	
	690					695					700				
Cys	Pro	Ala	Ile	Gly	Cys	Asn	Gly	Lys	Ile	Phe	Lys	Lys	Arg	Ser	Arg
705					710					715					720
Tyr	Asn	Lys	Ile	Phe	Tyr	Ser	Cys	Ser	Glu	Tyr	Pro	Glu	Cys	Ser	Val
				725					730					735	
Ile	Gly	Asn	Ser	Ile	Asp	Ala	Val	Ile	Thr	Lys	Tyr	Ser	Gly	Thr	Glu
			740					745					750		
Lys	Ile	Pro	Tyr	Lys	Lys	Lys	Thr	Pro	Thr	Lys	Lys	Lys	Ser	Ser	Ala
		755					760						765		
Lys	Thr	Thr	Lys	Ala	Ala	Lys	Thr	Pro	Ser	Lys	Lys	Gly	Lys	Ala	Lys
	770					775					780				
Ser	Ser	Val	Lys	Lys	Ser	Ser	Glu	Lys	Lys	Thr	Gly	Pro	Leu	Phe	Leu
785					790					795					800
Pro	Ser	Pro	Asp	Leu	Ala	Lys	Met	Ile	Gly	Asn	Glu	Pro	Val	Ser	Arg
				805					810					815	
Gly	Glu	Ala	Thr	Lys	Lys	Ile	Trp	Asp	Tyr	Ile	Lys	Glu	His	Gln	Leu
			820					825					830		

Gln	Ala	Pro	Glu	Asn	Lys	Lys	Leu	Leu	Val	Pro	Asp	Asn	Asn	Leu	Ala
		835					840					845			
Thr	Ile	Ile	Gly	Pro	Asn	Pro	Ile	Asp	Met	Phe	Gln	Leu	Ser	Lys	His
	850					855					860				
Leu	Ser	Gln	His	Leu	Thr	Lys	Val	Ser	Asn	Asp	Glu	Ser	Ser	Ala	Ser
865					870				875						880
Ser															

<210> 772  
 <211> 270  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 772															
Lys	Pro	Arg	Thr	Arg	Asn	Val	Glu	Lys	Leu	Glu	Phe	Val	Thr	Ser	Leu
1				5					10					15	
Ser	Ser	Pro	Asp	Asp	Asp	Leu	Ile	Thr	Phe	Asn	Lys	Gln	Gly	Leu	Ile
			20					25					30		
Ala	Gly	Pro	Glu	Glu	Glu	Lys	Val	Ala	Phe	Leu	Val	Arg	Ser	Asn	Ala
		35					40					45			
Met	Leu	Asp	Ala	Gly	Pro	Glu	Thr	Pro	Ala	Ser	Phe	Pro	Glu	Ser	Leu
	50					55					60				
Arg	Glu	Gln	Phe	Asp	Ile	Phe	Pro	Glu	Tyr	Val	Glu	Val	Leu	Tyr	Ser
65					70					75					80
Asn	Glu	Gly	Leu	Asp	Val	Trp	Glu	Ala	Gly	Cys	Thr	Trp	Ile	Leu	Asn
				85					90					95	
Asn	Glu	Val	Thr	Ile	Gln	Leu	Arg	Lys	His	His	Arg	Lys	Ala	Ser	Arg
			100					105					110		
Trp	Leu	Gly	Met	Tyr	Ser	Arg	Asp	Glu	Val	Leu	Ala	His	Glu	Ala	Val
		115					120					125			
His	Ala	Val	Arg	Met	Lys	Phe	His	Glu	Pro	Val	Phe	Glu	Glu	Val	Leu
	130					135					140				
Ala	Tyr	Gln	Thr	Ser	Arg	Trp	Gly	Trp	Arg	Arg	Phe	Phe	Gly	Pro	Leu
145					150					155					160
Phe	Arg	Ser	Pro	Gly	Glu	Ser	Tyr	Leu	Leu	Phe	Phe	Thr	Ile	Leu	
				165					170					175	
Gly	Leu	Gly	Ile	Ser	Leu	Trp	Tyr	Pro	Ala	Gly	Ile	Leu	Ile	Met	Leu
			180					185					190		
Val	Leu	Pro	Met	Tyr	Phe	Leu	Met	Arg	Leu	Cys	Met	Ala	Gln	Ser	Tyr
		195					200					205			
Leu	Tyr	Arg	Ala	Met	Lys	Lys	Ile	Arg	Lys	Met	Leu	Gly	Val	Pro	Pro
	210					215						220			
Leu	Trp	Val	Leu	Leu	Arg	Leu	Thr	Asp	Lys	Glu	Ile	Lys	Met	Phe	Ala
225					230					235					240
Lys	Glu	Pro	Ile	Pro	Val	Leu	Glu	His	Tyr	Ala	Arg	Lys	Arg	Lys	Leu
				245					250					255	
Glu	Asn	Val	Arg	Trp	Lys	Gln	Ile	Tyr	Gln	Ser	Tyr	Phe	Val		
			260					265					270		

<210> 773  
 <211> 456  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 773															
Ile	Phe	Lys	Gly	Asn	Ser	Lys	Arg	Leu	Tyr	Asp	Ser	Ser	Ala	Leu	Asp
1				5					10					15	
Met	Phe	Gln	Gln	Lys	Gln	Lys	Leu	Ser	Leu	Lys	Tyr	Leu	Pro	Ser	Leu
			20					25					30		



Arg	Met	Gln	Gln	Gly	Leu	Gln	Met	Leu	Gln	Ser	Pro	Leu	Thr	Glu	Leu	
	35						40					45				
Ser	Ser	Tyr	Val	Val	Gln	Glu	Ile	Ile	Asp	Asn	Pro	Phe	Phe	Asp	Leu	
	50					55					60					
Ser	Ser	Leu	Glu	Glu	Glu	Glu	Trp	Ser	Pro	Cys	Tyr	Arg	Pro	Thr	Asn	
65					70					75					80	
Ser	Thr	Phe	Ser	Tyr	Leu	Asn	Gln	Thr	Pro	Gly	Pro	Gln	Glu	Ser	Leu	
				85					90					95		
Tyr	Thr	Arg	Leu	Leu	Pro	Gln	Ile	Glu	Glu	Ala	Phe	Ser	Thr	Ala	Glu	
			100					105						110		
Glu	Arg	Phe	Ile	Ala	His	Gln	Ile	Ala	Gly	Asn	Leu	Ser	Asp	Glu	Gly	
		115				120						125				
Leu	Phe	Leu	Arg	Asn	Pro	Glu	Asp	Phe	Ala	Gln	Glu	Leu	Glu	Leu	Pro	
	130					135					140					
Leu	Glu	Lys	Ile	His	Lys	Val	Trp	Asp	Thr	Ile	Gln	Asn	Leu	Ser	Pro	
145					150					155					160	
Glu	Gly	Ile	Ala	Ser	Pro	Ser	Leu	Gln	Ser	Tyr	Trp	Met	Lys	Leu	Leu	
				165					170					175		
Arg	Asn	Ser	Ser	His	Gln	Gln	Ala	Tyr	Ser	Ile	Val	Arg	Asp	Cys	Tyr	
			180					185					190			
Pro	Leu	Met	Thr	Asn	Cys	Glu	Phe	Ala	Pro	Ile	Met	Lys	Lys	Phe	Ser	
		195					200					205				
Leu	Ser	Leu	Ser	Glu	Leu	Arg	Asn	Ile	Leu	Lys	Lys	Ala	Leu	Gly	Ser	
	210					215					220					
Ile	Pro	Trp	Cys	Pro	Ala	Ala	Ala	Cys	Thr	Val	Lys	Pro	Met	Val	Ser	
225					230					235					240	
Thr	Pro	Leu	Pro	Asp	Ile	Tyr	Leu	Phe	Tyr	Ser	Ser	Gly	Ser	Trp	Lys	
				245					250					255		
Ile	Glu	Val	Ser	Thr	Arg	Gly	Leu	Pro	Ser	Ile	Lys	Leu	Asn	Lys	Glu	
			260				265						270			
Thr	Phe	His	Phe	Tyr	Glu	His	Leu	Pro	Lys	Glu	Glu	Gln	Lys	Asn	Leu	
		275					280					285				
Ser	Gln	Gln	Ile	Leu	Ser	Ala	Lys	Trp	Leu	Ile	Lys	Asn	Leu	Arg	Lys	
	290					295					300					
Arg	Glu	Gln	Thr	Leu	Leu	Gln	Val	Met	Glu	Thr	Leu	Leu	Pro	Lys	Gln	
305					310					315					320	
Glu	Asp	Phe	Leu	Leu	Gly	Lys	Ile	Pro	Ala	Pro	Tyr	Pro	Leu	Gly	Ile	
				325					330					335		
Lys	Asp	Leu	Ala	Glu	Asp	Leu	Ser	Phe	His	Glu	Ser	Thr	Ile	Phe	Arg	
			340					345					350			
Ala	Ile	Glu	Asn	Lys	Ala	Val	Ala	Ala	Pro	Ile	Gly	Ile	Phe	Pro	Leu	
		355					360					365				
Lys	His	Leu	Phe	Pro	Arg	Gly	Ile	His	Gln	Asp	Ser	Ser	His	Ser	Lys	
	370					375					380					
Glu	Asn	Val	Leu	Gln	Trp	Ile	Arg	Gln	Trp	Ile	Ala	Thr	Glu	Gln	Thr	
385				390						395					400	
Pro	Leu	Ser	Asp	Ser	Val	Ile	Ser	Asp	Arg	Ile	Thr	Ala	Lys	Gly	Ile	
				405					410					415		
Pro	Cys	Ala	Arg	Arg	Thr	Val	Ala	Lys	Tyr	Arg	Ala	Gln	Leu	Lys	Ile	
			420					425				430				
Leu	Pro	Ala	Asn	Lys	Arg	Lys	Lys	Leu	Phe	Tyr	Ile	Arg	Ser	Ser	Asn	
		435					440					445				
Ser	His	Phe	Arg	Asp	Arg	Gln	Phe									
	450					455										

<210> 774  
 <211> 644  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 774

Lys	Leu	Gly	Leu	Ile	Met	Thr	Cys	Ile	Ser	Glu	Leu	Asn	Glu	Ala	Gln	1	5	10	15
Arg	Lys	Ala	Val	Thr	Ala	Pro	Leu	Asn	Pro	Val	Leu	Val	Leu	Ala	Gly	20	25	30	35
Ala	Gly	Ala	Gly	Lys	Thr	Arg	Val	Val	Thr	Tyr	Arg	Ile	Leu	His	Leu	40	45	50	55
Ile	Asn	Gln	Gly	Ile	Ala	Pro	Arg	Glu	Ile	Leu	Ala	Val	Thr	Phe	Thr	60	65	70	75
Asn	Lys	Ala	Ala	Arg	Glu	Leu	Lys	Glu	Arg	Ile	Val	Asn	Gln	Cys	Ala	80	85	90	95
Ser	Thr	Asn	Glu	Phe	Asp	Val	Pro	Met	Val	Cys	Thr	Phe	His	Ser	Leu	100	105	110	115
Gly	Val	Phe	Ile	Leu	Arg	Arg	Ser	Ile	Asn	Leu	Leu	Asn	Arg	Glu	Asn	120	125	130	135
Asn	Phe	Thr	Ile	Tyr	Asp	Gln	Ser	Asp	Ala	Glu	Lys	Leu	Ile	Lys	His	140	145	150	155
Ala	Leu	Gln	Gln	His	Asn	Leu	Lys	Pro	Asn	Leu	Ala	Ser	Lys	Ile	Gln	160	165	170	175
Ala	His	Val	Ser	Gln	Ala	Lys	Asn	Arg	Leu	Leu	Phe	Pro	Glu	Asp	Leu	180	185	190	195
Asp	Pro	Asn	Asp	Tyr	Ile	Asp	Pro	Val	Val	Ser	Ile	Tyr	Gln	Glu	Tyr	200	205	210	215
Gln	Lys	Lys	Leu	Ile	Glu	Ala	Asn	Ala	Leu	Asp	Phe	Asp	Asp	Leu	Leu	220	225	230	235
Phe	Leu	Thr	Val	Arg	Leu	Leu	Arg	Glu	Ser	Pro	Glu	Ala	Gln	Glu	Leu	240	245	250	255
Tyr	Asn	Gln	Leu	Trp	Lys	Ala	Leu	Leu	Ile	Asp	Glu	Tyr	Gln	Asp	Thr	260	265	270	275
Asn	His	Ala	Gln	Tyr	Thr	Leu	Met	Gln	Leu	Leu	Ser	Lys	Gln	His	Arg	280	285	290	295
Asn	Val	Phe	Ala	Val	Gly	Asp	Pro	Asp	Gln	Ser	Ile	Tyr	Ser	Trp	Arg	300	305	310	315
Gly	Ala	Asn	Ile	His	Asn	Ile	Leu	Asn	Phe	Glu	Asn	Asp	Tyr	Pro	Asn	320	325	330	335
Ala	Lys	Val	Leu	Cys	Leu	Glu	Glu	Asn	Tyr	Arg	Ser	Tyr	Gly	Asn	Ile	340	345	350	355
Leu	Asn	Ala	Ala	Asn	Ala	Leu	Ile	Lys	Asn	Asn	Ala	Ser	Arg	Leu	Glu	360	365	370	375
Lys	Glu	Leu	Arg	Ser	Val	Lys	Gly	Pro	Gly	Glu	Lys	Ile	Arg	Leu	Phe	380	385	390	395
Leu	Gly	Ser	Thr	Asp	Arg	Glu	Glu	Ala	Asp	Phe	Val	Ala	Ala	Glu	Ile	400	405	410	415
Leu	Gln	Leu	His	Arg	Val	Gly	Asn	Ile	Lys	Leu	Arg	Asp	Ile	Cys	Ile	420	425	430	435
Phe	Tyr	Arg	Thr	Asn	Ser	Gln	Ser	Arg	Thr	Phe	Glu	Asp	Ala	Leu	Leu	440	445	450	455
Arg	Arg	Arg	Ile	Pro	Tyr	Glu	Ile	Ile	Gly	Gly	Leu	Ser	Phe	Tyr	Lys	460	465	470	475
Arg	Lys	Glu	Ile	Gln	Asp	Ile	Leu	Ala	Phe	Leu	Arg	Ile	Phe	Ile	Ser	480	485	490	495
Lys	Ser	Asp	Ile	Val	Ala	Phe	Asp	Arg	Thr	Val	Asn	Leu	Pro	Lys	Arg	500	505	510	515
Gly	Ile	Gly	Ser	Thr	Thr	Ile	Phe	Ala	Leu	Thr	Gln	Tyr	Ala	Ile	Ala	520	525	530	535
Gln	Gly	Leu	Pro	Ile	Leu	Lys	Ala	Cys	Gln	Gln	Ala	Leu	Asp	Thr	Lys	540	545	550	555
Asp	Val	Lys	Leu	Ser	Lys	Lys	Gln	Gln	Glu	Gly	Leu	Gln	Glu	Tyr	Leu	560	565	570	575
Ala	Leu	Phe	Pro	Gln	Ile	Glu	His	Ala	Tyr	Asn	Thr	Leu	Ser	Leu	Arg	580	585	590	595



<210> 776  
 <211> 81  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 776  
 Leu Glu Ala Pro Met Asn Glu Gly Ile His Ser Val Cys Phe Gln Lys  
 1 5 10 15  
 Thr Pro Arg Leu Thr Ala Lys Ser Val Val Ser Met Glu Met Leu Leu  
 20 25 30  
 Thr Thr Gln Gln Leu Pro Ser Ala Glu Gly Met Pro Ser Val Ala Asn  
 35 40 45  
 Leu Glu Ala Asp Phe Leu Arg Ala Glu Ala Leu Leu Ala Glu Met Arg  
 50 55 60  
 Glu Ile Arg Gly Cys Leu Glu Gln Ser Leu Arg Thr Leu Val Pro Ser  
 65 70 75 80  
 Glu

<210> 777  
 <211> 209  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 777  
 Glu Arg Phe Met Lys Ile Val Ile Ala Ser Ser His Gly Tyr Lys Ile  
 1 5 10 15  
 Arg Glu Thr Lys Thr Phe Leu Lys Arg Leu Gly Asp Phe Asp Ile Phe  
 20 25 30  
 Ser Leu Ser Asp Phe Pro Asp Tyr Lys Leu Pro Gln Glu Gln Gly Asp  
 35 40 45  
 Ser Ile Thr Ala Asn Ala Leu Thr Lys Gly Ile His Ala Ala Asn His  
 50 55 60  
 Leu Gly Cys Trp Val Ile Ala Asp Asp Thr Met Leu Arg Val Pro Ala  
 65 70 75 80  
 Leu Asn Gly Leu Pro Gly Pro Leu Ser Ala Asn Phe Ala Gly Val Gly  
 85 90 95  
 Ala Tyr Asp Lys Asp His Arg Lys Lys Leu Leu Asp Leu Met Ser Ser  
 100 105 110  
 Leu Glu Ser Leu Val Asp Arg Ser Ala Tyr Phe Glu Cys Cys Val Val  
 115 120 125  
 Leu Val Ser Pro Asn Gln Glu Ile Phe Lys Thr Tyr Gly Ile Cys Glu  
 130 135 140  
 Gly Tyr Ile Ser His Gln Glu Lys Gly Ser Ser Gly Phe Gly Tyr Asp  
 145 150 155 160  
 Pro Ile Phe Val Lys Tyr Asp Tyr Lys Gln Thr Phe Ala Glu Leu Ser  
 165 170 175  
 Glu Asp Val Lys Asn Gln Val Ser His Arg Ala Lys Ala Leu Gln Lys  
 180 185 190  
 Leu Ala Pro His Leu Gln Ser Leu Phe Glu Lys His Leu Leu Thr Arg  
 195 200 205  
 Asp

<210> 778  
 <211> 436  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 778

Phe	Ile	Phe	Val	Leu	Lys	Asn	Phe	Tyr	Asp	Cys	Leu	Leu	Met	Phe	Phe
1				5					10					15	
Gln	Phe	Leu	Ser	Phe	Thr	Met	Lys	Lys	Ile	Phe	Tyr	Ser	Phe	Val	Leu
		20					25						30		
Leu	Ser	Cys	Ile	Phe	Pro	Tyr	Val	Gly	Cys	Ala	Gln	Val	Phe	Val	Gly
	35					40					45				
Leu	Asp	Arg	Ile	Phe	Ser	Glu	Gly	Glu	Tyr	Thr	Arg	Cys	Ile	Gln	Gly
50					55					60					
Lys	Lys	Ile	Ala	Leu	Ile	Ser	His	Ser	Ala	Ala	Ile	Asn	Ser	Arg	Gly
65				70					75					80	
Gln	Asp	Ala	Leu	Ser	Val	Phe	Tyr	Ser	Arg	Lys	His	Asp	Cys	Thr	Val
			85					90						95	
Glu	Ile	Leu	Cys	Thr	Leu	Glu	His	Gly	Tyr	Tyr	Gly	Ala	Thr	Pro	Thr
		100						105					110		
Glu	Thr	Val	Gly	Asn	Gln	Pro	Ser	Arg	Tyr	Pro	Asn	Leu	Arg	Ser	Val
	115					120					125				
Ser	Leu	Tyr	Gly	Val	Lys	Glu	Val	Pro	Lys	Glu	Val	Ala	Glu	His	Cys
	130				135					140					
Asp	Val	Phe	Val	Tyr	Asp	Val	Gln	Asp	Ile	Gly	Val	Arg	Ser	Tyr	Ser
145				150					155					160	
Phe	Val	Thr	Val	Leu	Met	Gln	Ile	Val	Lys	Ala	Ser	Glu	Arg	Tyr	Gly
			165					170						175	
Lys	Gln	Leu	Ile	Val	Leu	Asp	Arg	Pro	Asn	Pro	Met	Gly	Gly	Arg	Ile
	180					185						190			
Val	Asp	Gly	Pro	Leu	Pro	Asn	Pro	Thr	Thr	Ser	Gly	Ser	Leu	Ala	Ile
	195				200						205				
Pro	Tyr	Cys	Tyr	Gly	Met	Thr	Pro	Gly	Glu	Leu	Ala	Leu	Phe	Phe	Lys
	210				215					220					
Lys	Thr	Tyr	Ala	Pro	Asn	Ala	Asn	Val	Val	Val	Ile	Pro	Met	Lys	Gly
225				230					235					240	
Trp	Asn	Arg	Ser	Met	Thr	Phe	Asp	Glu	Thr	Gly	Leu	Ile	Trp	Met	Pro
			245					250					255		
Thr	Ser	Pro	Gln	Met	Pro	Asp	Pro	Gln	Ser	Pro	Phe	Phe	Tyr	Ala	Ala
		260						265					270		
Thr	Gly	Ile	Leu	Gly	Ala	Leu	Ser	Val	Ala	Ser	Ile	Gly	Val	Gly	Tyr
	275				280						285				
Thr	Leu	Pro	Phe	Lys	Val	Leu	Gly	Ala	Pro	Trp	Met	Asp	Gly	Glu	Lys
	290				295					300					
Val	Ala	Asp	Glu	Leu	Asn	Arg	Met	Lys	Leu	Pro	Gly	Val	Leu	Phe	Leu
305				310					315					320	
Pro	Phe	Phe	Tyr	Glu	Pro	Phe	Phe	Gly	Lys	Tyr	Lys	Met	Glu	Met	Cys
			325					330					335		
Ser	Gly	Val	Leu	Leu	Val	Leu	Gln	Asp	Pro	Lys	Ile	Phe	Tyr	Pro	Val
		340					345					350			
Glu	Thr	Gln	Cys	Thr	Ile	Trp	Gly	Val	Leu	Lys	Ala	Leu	Tyr	Pro	Lys
	355					360					365				
Gln	Val	Glu	Gln	Thr	Leu	Lys	Ser	Ile	Glu	Arg	Ile	Pro	Ala	Arg	Arg
	370				375						380				
Ser	Ser	Ile	Cys	Asn	Leu	Phe	Gly	Gly	Asp	Glu	Phe	Leu	Ser	Ile	Ser
385				390					395					400	
His	Lys	Glu	Arg	Tyr	Ile	Val	Trp	Pro	Leu	Arg	Arg	Leu	Cys	Lys	Glu
			405					410					415		
Ser	Arg	Glu	Ser	Phe	His	Gln	Leu	Arg	Ser	Ser	Cys	Leu	Leu	Ser	Glu
		420					425					430			
Tyr	Ala	Glu	Ser												
		435													

<210> 779  
 <211> 531  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 779  
 Thr Ser Glu Asp Arg Val Val Trp Val Phe Lys Ser Gln Phe Glu Gly  
 1 5 10 15  
 Leu Ser Ala Leu Lys Arg Gly Val His Ala Leu Thr Lys Ala Val Thr  
 20 25 30  
 Pro Ala Phe Gly Pro Arg Gly Tyr Asn Val Val Ile Lys Lys Gly Lys  
 35 40 45  
 Ala Pro Ile Val Leu Thr Lys Asn Gly Ile Arg Ile Ala Lys Glu Ile  
 50 55 60  
 Ile Leu Gln Asp Ala Phe Glu Ser Leu Gly Val Lys Leu Ala Lys Glu  
 65 70 75 80  
 Ala Leu Leu Lys Val Val Glu Gln Thr Gly Asp Gly Ser Thr Thr Ala  
 85 90 95  
 Leu Val Val Ile Asp Ala Leu Phe Thr Gln Gly Leu Lys Gly Ile Ala  
 100 105 110  
 Ala Gly Leu Asp Pro Gln Glu Ile Lys Ala Gly Ile Leu Leu Ser Val  
 115 120 125  
 Glu Met Val Tyr Gln Gln Leu Gln Arg Gln Ala Ile Glu Leu Gln Ser  
 130 135 140  
 Pro Lys Asp Val Leu His Val Ala Met Val Ala Ala Asn His Asp Val  
 145 150 155 160  
 Thr Leu Gly Thr Val Val Ala Thr Val Ile Ser Gln Ala Asp Leu Lys  
 165 170 175  
 Gly Val Phe Ser Ser Lys Asp Ser Gly Ile Ser Lys Thr Arg Gly Leu  
 180 185 190  
 Gly Lys Arg Val Lys Ser Gly Tyr Leu Ser Pro Tyr Phe Val Thr Arg  
 195 200 205  
 Pro Glu Thr Met Asp Val Val Trp Glu Glu Ala Leu Val Leu Ile Leu  
 210 215 220  
 Ser His Ser Leu Val Ser Leu Ser Glu Glu Leu Ile Arg Tyr Leu Glu  
 225 230 235 240  
 Leu Ile Ser Glu Gln Asn Thr His Pro Leu Val Ile Ile Ala Glu Asp  
 245 250 255  
 Phe Asp Gln Asn Val Leu Arg Thr Leu Ile Leu Asn Lys Leu Arg Asn  
 260 265 270  
 Gly Leu Pro Val Cys Ala Val Lys Ala Pro Gly Ser Arg Glu Leu Arg  
 275 280 285  
 Gln Val Val Leu Glu Asp Leu Ala Ile Leu Thr Gly Ala Thr Leu Ile  
 290 295 300  
 Gly Gln Glu Ser Glu Asn Cys Glu Ile Pro Val Ser Leu Asp Val Leu  
 305 310 315 320  
 Gly Arg Val Lys Gln Val Met Ile Thr Lys Glu Thr Phe Thr Phe Leu  
 325 330 335  
 Glu Gly Gly Gly Asp Ala Glu Ile Ile Gln Ala Arg Lys Gln Glu Leu  
 340 345 350  
 Cys Leu Ala Ile Ala Arg Ser Thr Ser Glu Ser Glu Cys Gln Glu Leu  
 355 360 365  
 Glu Glu Arg Leu Ala Ile Phe Ile Gly Ser Ile Pro Gln Val Gln Ile  
 370 375 380  
 Thr Ala Asp Thr Asp Thr Glu Gln Arg Glu Arg Gln Phe Gln Leu Glu  
 385 390 395 400  
 Ser Ala Leu Arg Ala Thr Lys Ala Ala Met Lys Gly Gly Ile Val Pro  
 405 410 415  
 Gly Gly Gly Val Ala Phe Leu Arg Ala Ala His Ala Ile Glu Val Pro  
 420 425 430

Ala Asn Leu Ser Ser Gly Met Thr Phe Gly Phe Glu Thr Leu Leu Gln  
435 440 445  
Ala Val Arg Thr Pro Leu Lys Val Leu Ala Gln Asn Cys Gly Arg Ser  
450 455 460  
Ser Glu Glu Val Ile His Thr Ile Leu Ser His Glu Asn Pro Arg Phe  
465 470 475 480  
Gly Tyr Asn Gly Met Thr Asp Thr Phe Glu Asp Leu Val Asp Ala Gly  
485 490 495  
Ile Cys Asp Pro Leu Ile Val Thr Thr Ser Ser Leu Lys Cys Ala Val  
500 505 510  
Ser Val Ser Cys Leu Leu Leu Thr Ser Ser Phe Phe Ile Ser Ser Arg  
515 520 525  
Thr Lys Thr  
530

<210> 780  
<211> 231  
<212> PRT  
<213> Chlamydia pneumoniae

<400> 780  
Ala Pro Val Ala Gln Ser Asp Arg Val Pro Gly Tyr Glu Pro Gly Gly  
1 5 10 15  
Gln Arg Phe Glu Ser Ser Leu Val Arg Asn Asn Lys Arg Val Glu Glu  
20 25 30  
Glu Val Phe Met Thr Leu Ser Leu Val Gly Lys Glu Ala Pro Asp Phe  
35 40 45  
Val Ala Gln Ala Val Val Asn Gly Glu Thr Cys Thr Val Ser Leu Lys  
50 55 60  
Asp Tyr Leu Gly Lys Tyr Val Val Leu Phe Phe Tyr Pro Lys Asp Phe  
65 70 75 80  
Thr Tyr Val Cys Pro Thr Glu Leu His Ala Phe Gln Asp Ala Leu Gly  
85 90 95  
Glu Phe His Thr Arg Gly Ala Glu Val Ile Gly Cys Ser Val Asp Asp  
100 105 110  
Ile Ala Thr His Gln Gln Trp Leu Ala Thr Lys Lys Lys Gln Gly Gly  
115 120 125  
Ile Glu Gly Ile Thr Tyr Pro Leu Leu Ser Asp Glu Asp Lys Val Ile  
130 135 140  
Ser Arg Ser Tyr His Val Leu Lys Pro Glu Glu Glu Leu Ser Phe Arg  
145 150 155 160  
Gly Val Phe Leu Ile Asp Lys Gly Gly Ile Ile Arg His Leu Val Val  
165 170 175  
Asn Asp Leu Pro Leu Gly Arg Ser Ile Glu Glu Glu Leu Arg Thr Leu  
180 185 190  
Asp Ala Leu Ile Phe Phe Glu Thr Asn Gly Leu Val Cys Pro Ala Asn  
195 200 205  
Trp His Glu Gly Glu Arg Ala Met Ala Pro Asn Glu Glu Gly Leu Gln  
210 215 220  
Asn Tyr Phe Gly Thr Ile Asp  
225 230

<210> 781  
<211> 136  
<212> PRT  
<213> Chlamydia pneumoniae

<400> 781  
Arg Phe Asp Leu Ile Phe Gln Met Lys Phe Thr Val Ala Leu Phe Gly  
1 5 10 15

Glu	Ala	Glu	Lys	Gly	Ser	Tyr	Asp	Thr	Ala	Tyr	Phe	Cys	Arg	Ser	Leu
		20						25					30		
Val	Asp	Leu	His	Asn	Tyr	Leu	Gly	Asp	Val	Ser	Ser	Pro	Gly	Ile	Thr
	35						40					45			
Leu	Ala	Ile	Lys	Thr	Leu	Leu	Ser	Asp	Tyr	Asn	Val	Val	Tyr	Phe	Arg
	50					55					60				
Val	Arg	Glu	Glu	Gly	Tyr	Cys	Val	Asp	Ser	Tyr	Phe	Phe	Gly	Leu	His
65					70					75					80
Phe	Leu	Asn	Thr	Gln	Thr	Thr	Leu	Lys	Asn	Ile	Ile	Ala	Ile	Gly	Leu
			85						90					95	
Pro	Gly	Val	Gly	Asn	Gln	His	Ile	Ile	Glu	Ala	Ser	Arg	Ser	Leu	Cys
			100					105					110		
Gln	Lys	His	Asn	Ser	Leu	Leu	Leu	Phe	Phe	Asp	His	Asp	Leu	Tyr	Asp
		115					120					125			
Leu	Leu	Thr	Phe	Asn	Gln	Pro	Phe								
	130					135									

<210> 782

<211> 217

<212> PRT

<213> Chlamydia pneumoniae

<400> 782

His	Gly	Asn	Lys	Ile	Ala	Val	Gln	Ser	Leu	Arg	Phe	Met	His	Ala	Lys
1				5					10					15	
Leu	Ser	Phe	Phe	Ile	Leu	Leu	Ser	Leu	Leu	Phe	Ser	Gly	Ile	Asp	Cys
			20					25					30		
Ser	Arg	Leu	His	Ala	Ala	Gly	Arg	Ser	Pro	Ser	Leu	Gln	Gly	Val	Leu
	35					40					45				
Ala	Glu	Ile	Glu	Asp	Ile	Ser	Ala	Lys	Leu	Ala	Ser	His	Glu	Val	Glu
	50					55					60				
Ile	Val	Met	Leu	Ser	Glu	Arg	Leu	Asp	Glu	Gln	Asp	Ser	Lys	Cys	Gln
65					70					75					80
Lys	Trp	Thr	Ala	Ala	Lys	Pro	Glu	Thr	Leu	Ala	Gln	Lys	Ile	Arg	Glu
			85						90					95	
Leu	Glu	Ser	Asp	Gln	Lys	Ala	Leu	Ala	Lys	Thr	Leu	Ala	Val	Leu	Thr
			100					105					110		
Thr	Ser	Val	Lys	Asp	Leu	Gln	Thr	Asn	Leu	Gln	Ser	Lys	Leu	Gln	Glu
		115				120						125			
Ile	Gln	Lys	Asp	His	Arg	Ala	Leu	Ala	Gln	Asp	Leu	Arg	Leu	Val	Arg
	130					135					140				
Arg	Ser	Leu	Leu	Ala	Leu	Val	Asp	Ser	Ser	Ser	Pro	Gly	Ala	Tyr	Ala
145					150					155					160
Asp	Phe	Ser	Asp	Pro	Val	Pro	Glu	Asn	Ile	Tyr	Ile	Val	Arg	Glu	Gly
			165					170						175	
Asp	Ser	Leu	Ser	Lys	Ile	Ala	Lys	Lys	Tyr	Lys	Leu	Ser	Val	Thr	Glu
			180					185					190		
Leu	Lys	Lys	Ile	Asn	Lys	Leu	Asp	Ser	Asp	Ala	Ile	Tyr	Ala	Gly	Gln
		195				200						205			
Arg	Leu	Cys	Leu	Gln	Arg	Asn	Lys	Gln							
	210					215									

<210> 783

<211> 218

<212> PRT

<213> Chlamydia pneumoniae

<400> 783

Gln	Asn	Cys	Tyr	Arg	Ser	Arg	Arg	Lys	Thr	Val	Pro	Leu	Leu	Gly	Cys
1				5					10					15	



Phe	Pro	Ser	Ala	Thr	Asp	Lys	Glu	Asn	Thr	Met	Asn	Ile	His	Ser	Leu
			20					25					30		
Trp	Lys	Leu	Cys	Thr	Leu	Leu	Ala	Leu	Leu	Ala	Leu	Pro	Ala	Cys	Ser
		35					40					45			
Leu	Ser	Pro	Asn	Tyr	Gly	Trp	Glu	Asp	Ser	Cys	Asn	Thr	Cys	His	His
	50					55					60				
Thr	Arg	Arg	Lys	Lys	Pro	Ser	Ser	Phe	Gly	Phe	Val	Pro	Leu	Tyr	Thr
65					70					75					80
Glu	Glu	Asp	Phe	Asn	Pro	Asn	Phe	Thr	Phe	Gly	Glu	Tyr	Asp	Ser	Lys
			85						90					95	
Glu	Glu	Lys	Gln	Tyr	Lys	Ser	Ser	Gln	Val	Ala	Ala	Phe	Arg	Asn	Ile
			100					105					110		
Thr	Phe	Ala	Thr	Asp	Ser	Tyr	Thr	Ile	Lys	Gly	Glu	Glu	Asn	Leu	Ala
		115					120						125		
Ile	Leu	Thr	Asn	Leu	Val	His	Tyr	Met	Lys	Lys	Asn	Pro	Lys	Ala	Thr
	130					135					140				
Leu	Tyr	Ile	Glu	Gly	His	Thr	Asp	Glu	Arg	Gly	Ala	Ala	Ser	Tyr	Asn
145					150					155					160
Leu	Ala	Leu	Gly	Ala	Arg	Arg	Ala	Asn	Ala	Ile	Lys	Glu	His	Leu	Arg
			165						170					175	
Lys	Gln	Gly	Ile	Ser	Ala	Asp	Arg	Leu	Ser	Thr	Ile	Ser	Tyr	Gly	Lys
			180					185					190		
Glu	His	Pro	Leu	Asn	Ser	Gly	His	Asn	Glu	Leu	Ala	Trp	Gln	Gln	Asn
		195				200						205			
Arg	Arg	Thr	Glu	Phe	Lys	Ile	His	Ala	Arg						
	210					215									

<210> 784

<211> 435

<212> PRT

<213> Chlamydia pneumoniae

<400> 784

Gly	Asp	Ile	Gly	Met	Leu	Arg	Gln	Leu	Cys	Phe	Gln	Val	Phe	Phe	Phe
1				5					10					15	
Cys	Phe	Ala	Ser	Leu	Val	Tyr	Ala	Glu	Leu	Glu	Val	Val	Val	Arg	
		20						25				30			
Ser	Glu	His	Ile	Thr	Leu	Pro	Ile	Glu	Val	Ser	Cys	Gln	Thr	Asp	Thr
		35					40					45			
Lys	Asp	Pro	Lys	Ile	Gln	Lys	Tyr	Leu	Ser	Ser	Leu	Thr	Glu	Ile	Phe
	50					55					60				
Cys	Lys	Asp	Ile	Ala	Leu	Gly	Asp	Cys	Leu	Gln	Pro	Thr	Ala	Ala	Ser
65					70					75					80
Lys	Glu	Ser	Ser	Ser	Pro	Leu	Ala	Ile	Ser	Leu	Arg	Leu	His	Val	Pro
			85						90					95	
Gln	Leu	Ser	Val	Val	Leu	Leu	Gln	Ser	Ser	Lys	Thr	Pro	Gln	Thr	Leu
			100					105					110		
Cys	Ser	Phe	Thr	Ile	Ser	Gln	Asn	Leu	Ser	Val	Asp	Arg	Gln	Lys	Ile
		115					120					125			
His	His	Ala	Ala	Asp	Thr	Val	His	Tyr	Ala	Leu	Thr	Gly	Ile	Pro	Gly
	130					135					140				
Ile	Ser	Ala	Gly	Lys	Ile	Val	Phe	Ala	Leu	Ser	Ser	Leu	Gly	Lys	Asp
145					150					155					160
Gln	Lys	Leu	Lys	Gln	Gly	Glu	Leu	Trp	Thr	Thr	Asp	Tyr	Asp	Gly	Lys
			165						170					175	
Asn	Leu	Ala	Pro	Leu	Thr	Thr	Glu	Cys	Ser	Leu	Ser	Ile	Thr	Pro	Lys
			180					185					190		
Trp	Val	Gly	Val	Gly	Ser	Asn	Phe	Pro	Tyr	Leu	Tyr	Val	Ser	Tyr	Lys
		195					200					205			
Tyr	Gly	Val	Pro	Lys	Ile	Phe	Leu	Gly	Ser	Leu	Glu	Asn	Thr	Glu	Gly
	210					215					220				

Lys	Lys	Val	Leu	Pro	Leu	Lys	Gly	Asn	Gln	Leu	Met	Pro	Thr	Phe	Ser
225					230					235					240
Pro	Arg	Lys	Lys	Leu	Leu	Ala	Phe	Val	Ala	Asp	Thr	Tyr	Gly	Asn	Pro
				245					250					255	
Asp	Leu	Phe	Ile	Gln	Pro	Phe	Ser	Leu	Thr	Ser	Gly	Pro	Met	Gly	Arg
			260					265					270		
Pro	Arg	Arg	Leu	Leu	Asn	Glu	Asn	Phe	Gly	Thr	Gln	Gly	Asn	Pro	Ser
		275					280					285			
Phe	Asn	Pro	Glu	Gly	Ser	Gln	Leu	Val	Phe	Ile	Ser	Asn	Lys	Asp	Gly
	290					295					300				
Arg	Pro	Arg	Leu	Tyr	Ile	Met	Ser	Leu	Asp	Pro	Glu	Pro	Gln	Ala	Pro
305					310					315					320
Arg	Leu	Leu	Thr	Lys	Lys	Tyr	Arg	Asn	Ser	Ser	Cys	Pro	Ala	Trp	Ser
				325					330					335	
Pro	Asp	Gly	Lys	Lys	Ile	Ala	Phe	Cys	Ser	Val	Ile	Lys	Gly	Val	Arg
			340					345					350		
Gln	Ile	Cys	Ile	Tyr	Asp	Leu	Ser	Ser	Gly	Glu	Asp	Tyr	Gln	Leu	Thr
		355					360					365			
Thr	Ser	Pro	Thr	Asn	Lys	Glu	Ser	Pro	Ser	Trp	Ala	Ile	Asp	Ser	Arg
	370					375					380				
His	Leu	Val	Phe	Ser	Ala	Gly	Asn	Ala	Glu	Glu	Ser	Glu	Leu	Tyr	Leu
385					390					395					400
Ile	Ser	Leu	Val	Thr	Lys	Lys	Thr	Asn	Lys	Ile	Ala	Ile	Gly	Val	Gly
				405					410					415	
Glu	Lys	Arg	Phe	Pro	Ser	Trp	Gly	Ala	Phe	Pro	Gln	Gln	Pro	Ile	Lys
			420					425					430		
Arg	Thr	Leu													
		435													

<210> 785

<211> 263

<212> PRT

<213> Chlamydia pneumoniae

<400> 785

Ile	Met	Met	Lys	Tyr	Leu	Pro	Tyr	Ile	Ala	Ile	Thr	Ala	Cys	Ile	His
1			5						10					15	
Gly	Gly	Ile	Leu	Leu	Leu	Val	Phe		Ala	Ser	Pro	Leu	Pro	Lys	Lys
			20						25					30	Arg
Leu	Gln	Pro	Lys	Ala	Phe	Gln	Glu	Lys	Leu	Val	Thr	Ile	Gln	Pro	Lys
		35					40					45			
Pro	Pro	Val	Pro	Thr	Pro	Ser	Val	Val	Val	Asp	Pro	Ala	Lys	Thr	Ile
	50					55					60				
Arg	Pro	Ser	Val	Ala	Thr	Gln	Pro	Gln	Lys	Gln	Ala	Lys	Cys	Ser	Pro
65					70					75					80
Pro	Gln	Glu	Asn	Val	Gln	Lys	Ala	Leu	Gln	Lys	Pro	Ile	Pro	Lys	Val
			85						90					95	
Ile	Lys	Thr	Glu	Pro	Pro	Lys	Pro	Ser	Pro	Ala	Pro	Thr	Val	Ala	Lys
			100					105					110		
Lys	Thr	Thr	Ala	Thr	Glu	Lys	Pro	Pro	Pro	Ser	Thr	Thr	Lys	Lys	Asn
		115					120					125			
Thr	Gln	Leu	Ser	Lys	Thr	Gln	Leu	Gln	Thr	Leu	Ser	Glu	Val	Ala	Gln
	130					135					140				
Ala	Leu	Ser	Leu	His	Val	Asp	Lys	Ile	Glu	Lys	Ser	Glu	Thr	Ser	Leu
145					150					155					160
Lys	Asn	Ile	Ser	Trp	Pro	Ser	Thr	Ala	Gln	Leu	Thr	Met	His	Ser	Glu
				165					170					175	
Leu	Lys	Ala	Thr	Gln	Glu	Asp	Glu	Leu	Cys	Glu	Leu	Phe	Arg	Thr	His
			180					185					190		
Ile	Ala	Leu	Pro	Ser	Lys	Gly	Tyr	Val	Arg	Ile	Lys	Leu	Val	Leu	Ser
		195					200						205		

Pro Asn Gly Glu Ile Gln Glu Cys Ser Phe Leu Ser Glu Val Ser Ala  
 210 215 220  
 Ala Asp Lys Gln Leu Leu Thr Gln Arg Ile Gln Ala Leu Pro Phe Gln  
 225 230 235 240  
 Lys Phe Leu Glu Lys Tyr Lys Val Ser Lys Asn Ile Ser Phe His Ile  
 245 250 255  
 Lys Leu Val Ser Asn Glu Ser  
 260

<210> 786  
 <211> 156  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 786  
 Asp Arg Ala Asp Ser Ile Phe Thr Thr Glu Phe Tyr Arg Ser Gln Ile  
 1 5 10 15  
 Pro Gln Tyr Lys Leu Met Lys Tyr Arg Phe Thr Glu Glu Ile Glu Glu  
 20 25 30  
 Glu Pro Leu Val Asn Leu Thr Pro Leu Ile Asp Ile Val Phe Val Ile  
 35 40 45  
 Leu Met Ala Phe Ile Val Ala Val Pro Leu Ile Lys Leu Asp Ser Ile  
 50 55 60  
 Ala Leu Ala Pro Gly Thr Gln Glu Gln Glu Val Leu Ser Ser Glu Asn  
 65 70 75 80  
 Asp Ser Ile Ala Val Ile Lys Val Phe Ala Asp His Ser Leu Thr Leu  
 85 90 95  
 Asn Glu His Pro Ile Thr Leu Gln Glu Leu Thr Val Arg Leu Thr Leu  
 100 105 110  
 Leu His Lys Ala Tyr Pro Glu Lys Thr Pro Leu Leu Leu Gln Asp Gly  
 115 120 125  
 Glu Thr Ser Phe Arg Thr Tyr Gln Asn Val Lys Asn Ala Ile Glu Ala  
 130 135 140  
 Ala Gly Phe His Glu Leu His Val Ala Leu Gln Asn  
 145 150 155

<210> 787  
 <211> 248  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 787  
 Asp His Leu Tyr Phe Glu Thr Leu Ser Val Asn Lys Asp Phe Tyr Ser  
 1 5 10 15  
 Met Val His Phe Ser His Asn Pro Ile Ile Gln Ala Tyr Thr Glu Ala  
 20 25 30  
 Asp Phe Phe Gly Lys Ser Ile Phe Phe Cys Leu Leu Ile Leu Ser Val  
 35 40 45  
 Cys Thr Trp Thr Val Leu His Gln Lys Leu Ala Ile Gln Lys Asn Phe  
 50 55 60  
 Leu Lys Ala Gly Lys Ser Leu Lys Asp Phe Leu Ile Lys Asn Arg His  
 65 70 75 80  
 Ala Pro Leu Ser Leu Asp Ile His Pro Glu Leu Ser Pro Phe Ala Asp  
 85 90 95  
 Leu Tyr Phe Thr Ile Lys Arg Gly Thr Leu Glu Leu Leu Asp Lys Asn  
 100 105 110  
 Arg Gln Ser Ala Pro Asp Arg Gly Pro Ile Leu Ser Ser Glu Asp Ile  
 115 120 125  
 Gln Ser Leu Glu Thr Leu Leu Gly Ala Ile Met Pro Lys Tyr Lys Ala  
 130 135 140

Leu Leu His Lys Asn Ser Phe Ile Pro Ala Thr Thr Ile Ser Leu Ala  
 145 150 155 160  
 Pro Phe Leu Gly Leu Leu Gly Thr Val Trp Gly Ile Leu Val Ala Phe  
 165 170 175  
 Thr His Ile Ser Ser Gly Ser Ser Gly Asn Ser Ala Ile Met Glu Gly  
 180 185 190  
 Leu Ala Thr Ala Leu Gly Thr Thr Ile Ile Gly Leu Phe Val Ala Ile  
 195 200 205  
 Pro Ser Leu Ile Ala Phe Asn Tyr Leu Lys Ala His Ser Ser Glu Leu  
 210 215 220  
 Ile Ser Glu Ile Glu Gln Thr Ala Tyr Leu Leu Leu Asn Ser Ile Glu  
 225 230 235 240  
 Val Lys Tyr Arg Asn Thr Asn Leu  
 245

<210> 788

<211> 719

<212> PRT

<213> Chlamydia pneumoniae

<400> 788

Asn His Gly Val Ile Leu Asn Lys Phe Lys Thr Tyr Leu Gln Thr Ala  
 1 5 10 15  
 Leu Ile Ala Pro Phe Phe Ser Phe Pro Ala Leu Ser Gly Ser Phe Ser  
 20 25 30  
 Ser Ile Gln Ala Glu Glu Ile Thr Gln Gln Val Asn His Pro Gly Ala  
 35 40 45  
 Glu Leu Leu Ser Glu Gly Ser Tyr Ile Pro Gly Leu Gln Thr Phe Arg  
 50 55 60  
 Leu Gly Ile Lys Ile Thr Ala Ser Lys Gly Ser His Ile Tyr Trp Lys  
 65 70 75 80  
 Asn Pro Gly Glu Ile Gly Ser Pro Leu Lys Ile Ser Trp Gln Leu Pro  
 85 90 95  
 Lys Gly Phe Val Val Glu Glu Glu His Trp Pro Thr Pro Lys Val Phe  
 100 105 110  
 Glu Glu Glu Gly Thr Thr Phe Phe Gly Tyr Glu Asp Ser Ala Leu Ile  
 115 120 125  
 Val Ala Asp Val Arg Ala Pro Glu Gly Tyr Thr Pro Gly Gln Glu Val  
 130 135 140  
 Glu Leu Arg Ala Gln Val Glu Trp Leu Ala Cys Gly Asp Ser Cys Leu  
 145 150 155 160  
 Pro Gly Asn Val Asp Leu Lys Leu Thr Leu Pro Tyr Glu Glu Lys Glu  
 165 170 175  
 Pro Ser Leu Tyr Pro Asp Thr His Ala Glu Phe Thr Lys Thr Leu His  
 180 185 190  
 Ala Gln Pro Arg Val Leu Glu Asn Asp His Ser Val Gln Val Ala Gln  
 195 200 205  
 Gly Lys Gly Asn Glu Ile Ile Leu Asn Ile Ser Lys Lys Ile Asn Ala  
 210 215 220  
 Thr Lys Ala Trp Phe Val Ser Glu Lys Ala Asp Lys Leu Phe Ala Tyr  
 225 230 235 240  
 Ala Glu Thr Ser Tyr Ser Gly Gly Thr Gly Thr Ala Trp Arg Leu Lys  
 245 250 255  
 Val Lys Asn Leu Ser Gly Val Gln Lys Asn Glu Lys Leu His Gly Ile  
 260 265 270  
 Leu Leu Leu Ala Asp His Thr Gly Arg Pro Val Glu Ser Leu Thr Ile  
 275 280 285  
 His Ser Glu Val Leu Gly Gln Thr Gly Ser Ala Val Ala Gly Leu Ser  
 290 295 300  
 Gln Tyr Ile Thr Ile Leu Ile Met Ala Phe Leu Gly Gly Val Leu Leu  
 305 310 315 320

Asn	Ile	Met	Pro	Cys	Val	Leu	Pro	Leu	Val	Thr	Leu	Lys	Val	Tyr	Gly	
				325					330					335		
Leu	Ile	Lys	Ser	Ala	Gly	Glu	His	Arg	Ser	Ser	Val	Ile	Ala	Asn	Gly	
			340					345					350			
Leu	Trp	Phe	Thr	Leu	Gly	Val	Val	Gly	Cys	Phe	Trp	Gly	Leu	Ala	Gly	
		355					360					365				
Val	Ala	Phe	Ile	Leu	Lys	Val	Leu	Gly	His	Asn	Ile	Gly	Trp	Gly	Phe	
	370					375					380					
Gln	Leu	Gln	Glu	Pro	Met	Phe	Val	Ala	Thr	Leu	Ile	Ile	Val	Phe	Phe	
385					390					395					400	
Leu	Phe	Ala	Leu	Ser	Ser	Leu	Gly	Leu	Phe	Glu	Met	Gly	Thr	Met	Phe	
				405					410					415		
Ala	Asn	Leu	Gly	Gly	Lys	Leu	Gln	Ser	Ser	Glu	Met	Lys	Ser	Ser	Asn	
			420					425					430			
Asn	Lys	Ala	Val	Gly	Ala	Phe	Phe	Asn	Gly	Ile	Leu	Ala	Thr	Leu	Val	
		435					440					445				
Thr	Thr	Pro	Cys	Thr	Gly	Pro	Phe	Leu	Gly	Ser	Val	Leu	Gly	Leu	Val	
	450				455						460					
Met	Ser	Leu	Ser	Phe	Leu	Gln	Gln	Leu	Leu	Ile	Phe	Thr	Ala	Ile	Gly	
465					470					475					480	
Leu	Gly	Met	Ala	Ser	Pro	Tyr	Leu	Val	Phe	Ser	Val	Phe	Pro	Lys	Met	
				485					490					495		
Leu	Ser	Val	Leu	Pro	Lys	Pro	Gly	Gly	Trp	Met	Ser	Thr	Phe	Lys	Gln	
			500					505					510			
Leu	Thr	Gly	Phe	Met	Leu	Leu	Val	Thr	Val	Thr	Trp	Leu	Val	Trp	Ile	
		515					520					525				
Phe	Gly	Ser	Glu	Thr	Ser	Thr	Thr	Ser	Val	Val	Val	Leu	Leu	Gly	Gly	
	530					535					540					
Leu	Trp	Leu	Ala	Gly	Leu	Gly	Ala	Trp	Ile	Leu	Gly	Arg	Trp	Gly	Thr	
545					550					555					560	
Pro	Val	Ser	Pro	Lys	Gln	Arg	Val	Cys	Ala	Ser	Leu	Leu	Phe	Phe		
				565				570					575			
Ala	Phe	Leu	Gly	Gly	Ala	Ile	Ser	Val	Ser	Gly	Leu	Ala	Ser	His	Tyr	
			580					585					590			
Phe	Ala	Glu	Pro	Gln	Gln	Thr	Val	Ser	Val	Asn	Glu	Asp	Ser	Leu	Trp	
		595					600					605				
Gln	Pro	Phe	Ser	Leu	Glu	Lys	Leu	Ala	Gln	Leu	Arg	Ala	Gln	Gly	Arg	
	610					615					620					
Pro	Val	Phe	Val	Asn	Phe	Thr	Ala	Lys	Trp	Cys	Leu	Thr	Cys	Gln	Met	
625					630					635					640	
Asn	Lys	Pro	Val	Leu	Tyr	Gly	Asp	Ala	Val	Gln	Lys	Met	Phe	Glu	Thr	
				645					650					655		
His	Gly	Ile	Val	Thr	Leu	Glu	Ala	Asp	Trp	Thr	Arg	Lys	Asp	Pro	Gly	
			660					665					670			
Ile	Thr	Glu	Glu	Leu	Ala	Arg	Leu	Gly	Arg	Ala	Ser	Val	Pro	Ser	Tyr	
		675					680					685				
Val	Tyr	Tyr	Pro	Gly	Asp	Asn	Ser	Ala	Pro	Val	Val	Leu	Pro	Glu	Lys	
	690					695					700					
Ile	Thr	Gln	Asn	Leu	Leu	Glu	Asp	Val	Val	Ser	Arg	Phe	Val	Arg		
705					710					715						

<210> 789

<211> 266

<212> PRT

<213> Chlamydia pneumoniae

<400> 789

Thr	Arg	Arg	Gln	Pro	Val	Asp	Leu	Ala	Asp	Ala	His	Val	His	Leu	Ser	
1				5					10					15		
Asp	Asp	Ala	Phe	Glu	Glu	Asp	Ile	Asn	Ser	Val	Leu	Gln	Arg	Ala	Gln	
			20					25					30			

Asp	Ser	Gly	Val	Ser	Leu	Val	Val	Asn	Val	Thr	Thr	Thr	Glu	Lys	Glu
		35					40					45			
Leu	Asn	Arg	Ser	Phe	Ala	Tyr	Ala	Glu	Arg	Phe	Pro	Lys	Ile	Arg	Phe
	50					55					60				
Cys	His	Val	Gly	Gly	Thr	Pro	Pro	Gln	Asp	Val	Asp	Gln	Asp	Ile	Glu
65					70				75					80	
Glu	Asp	Tyr	Arg	Asn	Phe	His	Ala	Ala	Ala	His	Ser	Lys	Lys	Leu	Ala
				85					90					95	
Ala	Ile	Gly	Glu	Val	Gly	Leu	Asp	Tyr	Cys	Phe	Ala	Thr	Glu	Glu	Gly
		100					105						110		
Ile	Ala	Arg	Gln	Lys	Glu	Val	Leu	Gln	Arg	Tyr	Leu	Ala	Leu	Ser	Leu
	115						120					125			
Glu	Cys	Glu	Leu	Pro	Leu	Val	Val	His	Cys	Arg	Gly	Ala	Phe	Asn	Asp
	130				135						140				
Phe	Phe	Arg	Met	Leu	Asp	Gln	Tyr	Tyr	His	Asn	Asp	Pro	Arg	Ser	Arg
145					150					155					160
Pro	Gly	Met	Leu	His	Cys	Phe	Thr	Gly	Thr	Leu	Glu	Glu	Ala	Gln	Glu
				165					170					175	
Leu	Ile	Ser	Arg	Gly	Trp	Phe	Ile	Ser	Ile	Ser	Gly	Ile	Val	Thr	Phe
		180					185						190		
Lys	Asn	Ala	Gln	Asp	Leu	Arg	Asp	Leu	Val	Val	Glu	Leu	Pro	Leu	Glu
	195						200					205			
His	Leu	Leu	Ile	Glu	Thr	Asp	Ala	Pro	Phe	Leu	Ala	Pro	Val	Pro	Tyr
	210					215					220				
Arg	Gly	Lys	Lys	Asn	Glu	Pro	Ala	His	Val	Leu	His	Thr	Ile	Asn	Ala
225					230					235					240
Val	Ala	Asn	Val	Lys	Gly	Met	Phe	Pro	Gln	Glu	Leu	Ala	Ala	Leu	Ala
				245					250					255	
Tyr	Lys	Asn	Val	Leu	Arg	Phe	Leu	His	Gly						
			260					265							

<210> 790

<211> 304

<212> PRT

<213> Chlamydia pneumoniae

<400> 790

Ser	Leu	Val	Lys	Ser	Leu	Arg	Met	Ser	Arg	His	Glu	Ile	Cys	Pro	Glu
1			5					10						15	
Val	Ser	His	Lys	Lys	Gly	Lys	Tyr	Tyr	Ser	Thr	Phe	Ile	Phe	Arg	Cys
		20						25					30		
Ile	His	Ser	Leu	Ala	Gly	Ile	Ala	Phe	Thr	Phe	Phe	Leu	Cys	Glu	His
		35					40					45			
Leu	Phe	Thr	Asn	Met	Leu	Ala	Ser	Ser	Tyr	Phe	Ser	Gln	Gly	Lys	Gly
	50				55					60					
Phe	Val	Ala	Met	Val	Asn	Gly	Phe	His	Lys	Ile	Pro	Gly	Leu	Lys	Ile
65					70				75					80	
Ile	Glu	Val	Ala	Gly	Leu	Val	Leu	Pro	Phe	Leu	Cys	His	Ala	Ile	Ile
			85					90					95		
Gly	Ile	Val	Tyr	Leu	Phe	Gln	Gly	Lys	Ser	Asn	Cys	Tyr	Ser	Gly	Asp
		100					105						110		
Gly	Ser	Arg	Pro	His	Leu	Arg	Tyr	Ala	Lys	Asn	Tyr	Ser	Tyr	Thr	Trp
		115					120					125			
Gln	Arg	Trp	Thr	Ala	Trp	Ile	Leu	Leu	Phe	Gly	Ile	Ala	Phe	His	Val
	130					135					140				
Val	His	Leu	Arg	Phe	Ile	Arg	Tyr	Pro	Val	His	Val	Asp	Ile	His	Gly
145					150					155					160
Thr	Thr	Tyr	Tyr	Ala	Val	Asp	Ile	Gln	Pro	Ser	Arg	Tyr	Asp	Val	Ile
			165					170					175		
Val	Arg	Gly	Thr	Lys	Gly	Phe	Leu	Thr	Leu	Asn	Leu	Pro	Asn	Thr	Glu
			180					185					190		

Ala	Ser	Ser	Ile	Glu	Val	Ser	Arg	His	Asp	Leu	Gly	Gly	Ala	Asp	Ala
		195					200					205			
Ala	Leu	Leu	Ser	Glu	Arg	Asn	Ser	Tyr	Leu	Leu	Thr	Pro	Ser	Ala	Gly
	210					215					220				
Thr	Ala	Phe	Leu	Tyr	Val	Val	Arg	Asp	Ala	Leu	Gly	Ser	Leu	Phe	Ile
225					230					235					240
Ala	Leu	Leu	Tyr	Thr	Ile	Leu	Val	Ile	Ala	Ala	Ala	Phe	His	Gly	Phe
				245					250					255	
Asn	Gly	Leu	Trp	Thr	Phe	Cys	Cys	Arg	Trp	Gly	Val	Val	Val	Ser	Leu
		260						265					270		
Arg	Met	Gln	Gly	Val	Leu	Arg	Ile	Val	Cys	Tyr	Leu	Ala	Met	Ile	Val
		275					280					285			
Val	Thr	Phe	Met	Gly	Val	Ser	Ala	Val	Trp	Asn	Leu	Tyr	Ser	Val	Ala
	290					295					300				

<210> 791

<211> 627

<212> PRT

<213> Chlamydia pneumoniae

<400> 791

Gln	Met	Asp	Glu	Asn	Arg	Lys	Val	Ile	Val	Val	Gly	Gly	Gly	Leu	Ala
1				5					10					15	
Gly	Leu	Ser	Ala	Ala	Met	Gln	Leu	Ala	Asn	Leu	Gly	Ile	Ile	Val	Glu
			20					25					30		
Leu	Val	Ser	Leu	Thr	Lys	Val	Lys	Arg	Ser	His	Ser	Val	Cys	Ala	Gln
		35				40						45			
Gly	Gly	Ile	Asn	Ala	Ala	Leu	Asn	Leu	Lys	Pro	Glu	Glu	Glu	Asp	Ser
	50					55					60				
Pro	Tyr	Val	His	Ala	Tyr	Asp	Thr	Ile	Lys	Gly	Gly	Asp	Phe	Leu	Ala
65					70					75					80
Asp	Gln	Pro	Pro	Val	Leu	Glu	Met	Cys	Leu	Ala	Ala	Pro	Arg	Ile	Ile
				85					90					95	
Lys	Met	Leu	Asp	Asn	Phe	Gly	Cys	Pro	Phe	Asn	Arg	Gly	Pro	Ser	Gly
			100					105					110		
Asn	Leu	Asp	Val	Arg	Arg	Phe	Gly	Gly	Thr	Leu	Tyr	His	Arg	Thr	Val
			115				120					125			
Phe	Cys	Gly	Ala	Ser	Thr	Gly	Gln	Gln	Leu	Met	Tyr	Thr	Leu	Asp	Glu
	130					135					140				
Gln	Val	Arg	Arg	Arg	Glu	His	Ala	Gly	Arg	Val	Ile	Lys	Arg	Glu	Asn
145					150					155					160
His	Glu	Phe	Val	Arg	Leu	Val	Thr	Asp	His	Ser	Gly	Arg	Ala	Cys	Gly
				165					170					175	
Ile	Ile	Leu	Met	Asn	Leu	Phe	Asn	Asn	Arg	Leu	Glu	Ile	Leu	Arg	Gly
			180					185					190		
Asp	Ala	Val	Ile	Ile	Ala	Thr	Gly	Gly	Pro	Gly	Val	Ile	Phe	Lys	Met
		195					200					205			
Ser	Thr	Asn	Ser	Thr	Phe	Cys	Thr	Gly	Ala	Ala	Asn	Gly	Arg	Leu	Phe
	210					215						220			
Leu	Gln	Gly	Met	Ala	Tyr	Ala	Asn	Pro	Glu	Phe	Ile	Gln	Ile	His	Pro
225					230					235					240
Thr	Ala	Ile	Pro	Gly	Arg	Asp	Lys	Leu	Arg	Leu	Ile	Ser	Glu	Ser	Val
				245					250					255	
Arg	Gly	Glu	Gly	Gly	Arg	Val	Trp	Val	Pro	Gly	Asp	Ser	Ser	Lys	Arg
			260					265					270		
Ile	Val	Phe	Pro	Asp	Gly	Ser	Glu	Arg	Pro	Cys	Gly	Glu	Thr	Gly	Ala
		275					280					285			
Pro	Trp	Tyr	Phe	Leu	Glu	Asp	Met	Tyr	Pro	Ala	Tyr	Gly	Asn	Leu	Val
	290					295					300				
Ser	Arg	Asp	Val	Gly	Ala	Arg	Ala	Ile	Leu	Arg	Val	Cys	Glu	Ala	Gly
305					310					315					320

Leu Gly Ile Asp Gly Arg Met Glu Ala Tyr Leu Asp Val Thr His Leu  
 325 330 335  
 Pro Glu Lys Thr Arg His Lys Leu Glu Val Val Leu Asp Ile Tyr Lys  
 340 345 350  
 Lys Phe Thr Gly Glu Asp Pro Asn Thr Val Pro Met Arg Ile Phe Pro  
 355 360 365  
 Ala Val His Tyr Ser Met Gly Gly Ala Trp Val Asp Trp Pro Ala Ala  
 370 375 380  
 Asp Asp Pro Asp Arg Asp Ser Arg Phe Arg Gln Met Thr Asn Ile Pro  
 385 390 395 400  
 Gly Cys Phe Asn Cys Gly Glu Ser Asp Phe Gln Tyr His Gly Ala Asn  
 405 410 415  
 Arg Leu Gly Ala Asn Ser Leu Leu Ser Cys Leu Phe Ala Gly Leu Val  
 420 425 430  
 Ser Gly Asp Glu Ala Ser Arg Phe Ile Glu Ala Phe Gly Ala Ser Gln  
 435 440 445  
 Ala Thr Ser Ser Asp Phe Asp Arg Ala Leu Gln Gln Glu Lys Glu Glu  
 450 455 460  
 Asn Ala Arg Leu Leu Ser Ala Ser Gly Lys Glu Asn Ile Phe Val Leu  
 465 470 475 480  
 His Glu Glu Ile Ala Lys Ile Met Val Arg Asn Val Thr Val Lys Arg  
 485 490 495  
 Asn Asn Arg Asp Leu Gln Glu Thr Met Asp Lys Leu Lys Glu Phe Arg  
 500 505 510  
 Glu Arg Leu Lys Asn Val Ser Val Leu Asp Ser Ser Pro Phe Ala Asn  
 515 520 525  
 Lys Ser Phe His Phe Val Arg Gln Met Gly Pro Met Leu Glu Leu Ala  
 530 535 540  
 Leu Ala Ile Thr Lys Gly Ala Leu Leu Arg Asn Glu Phe Arg Gly Ser  
 545 550 555 560  
 His Tyr Lys Pro Glu Phe Pro Glu Arg Asp Asp Glu His Trp Leu Lys  
 565 570 575  
 Thr Thr Val Ala Val Tyr Ala Pro Glu Glu Pro Glu Ile Ser Tyr Leu  
 580 585 590  
 Pro Val Asp Thr Arg His Val Ala Pro Thr Leu Arg Asp Tyr Thr Lys  
 595 600 605  
 Ser Ser Thr Gly Lys Ile Glu Leu Thr Asn Ile Pro Asp Asn Ile Arg  
 610 615 620  
 Leu Pro Ile  
 625

<210> 792

<211> 275

<212> PRT

<213> Chlamydia pneumoniae

<400> 792

Asn Ser Arg Ile Phe Leu Ile Ile Ser Val Tyr Pro Tyr Arg Lys Arg  
 1 5 10 15  
 Glu Met Met Glu Asn Leu Glu Thr Phe Ile Leu Lys Ile Tyr Arg Gly  
 20 25 30  
 Val Pro Gly Lys Gln Tyr Trp Glu Ser Phe Glu Leu Pro Leu His Pro  
 35 40 45  
 Gly Glu Asn Val Ile Ser Ala Leu Met Glu Ile Glu Lys Arg Pro Val  
 50 55 60  
 Asn Ile Leu Gly Glu Lys Val Asn Pro Val Val Trp Glu Gln Gly Cys  
 65 70 75 80  
 Leu Glu Glu Val Cys Gly Ser Cys Ser Ile Leu Val Asn Gly Val Pro  
 85 90 95  
 Arg Gln Ala Cys Thr Ala Leu Ile Gln Glu Tyr Ile Asp Ala Thr Gln  
 100 105 110



Ser Arg Glu Ile Val Leu Ala Pro Leu Thr Lys Phe Pro Leu Ile Arg  
 115 120 125  
 Asp Leu Ile Val Asp Arg Ser Ile Met Phe Asp Asn Leu Glu Arg Ile  
 130 135 140  
 Gln Gly Trp Val Ala Ala Asp Ile Glu Gly Glu Thr Phe Gly Pro Gln  
 145 150 155 160  
 Val Thr Gln Glu Gln Glu Leu Leu Tyr Ala Leu Ser Gln Cys Met  
 165 170 175  
 Thr Cys Gly Cys Cys Thr Glu Ala Cys Pro Gln Ile Asp Asn Lys Ser  
 180 185 190  
 Asp Phe Ile Gly Pro Ala Ala Ile Ser Gln Ala Arg Tyr Phe Asn Thr  
 195 200 205  
 Tyr Pro Gly Asp Lys Arg Ser Lys Lys Arg Trp Arg Ala Leu Met Gly  
 210 215 220  
 Lys Gly Gly Ile Glu Gly Cys Gly Gln Ala His Asn Cys Val Arg Val  
 225 230 235 240  
 Cys Pro Lys Lys Leu Pro Leu Thr Glu Ser Ile Ser Ala Val Gly Arg  
 245 250 255  
 Glu Ile Ser Lys Phe Ser Leu Arg Ser Leu Phe Ser Ala Leu Phe Lys  
 260 265 270  
 Lys Lys Lys  
 275

<210> 793

<211> 998

<212> PRT

<213> Chlamydia pneumoniae

<400> 793

Thr Cys Leu Arg Ser Ser Arg Lys Ile Val Val Glu Asp Ile Ser Asp  
 1 5 10 15  
 Arg Asn Met Tyr Ser Cys Tyr Ser Lys Gly Ile Ser His Asn Tyr Leu  
 20 25 30  
 Leu His Pro Met Ser Arg Leu Asp Ile Phe Val Phe Asp Ser Leu Ile  
 35 40 45  
 Ala Asn Gln Asp Gln Asn Leu Leu Glu Glu Ile Phe Cys Ser Glu Asp  
 50 55 60  
 Thr Val Leu Phe Lys Ala Tyr Arg Thr Thr Ala Leu Gln Ser Pro Leu  
 65 70 75 80  
 Ala Ala Lys Asn Leu Asn Ile Ala Arg Lys Val Ala Asn Tyr Ile Leu  
 85 90 95  
 Ala Asp Asn Gly Glu Ile Asp Thr Val Lys Leu Val Glu Ala Ile His  
 100 105 110  
 His Leu Ser Gln Cys Thr Tyr Pro Leu Gly Pro His Arg His Asn Glu  
 115 120 125  
 Ala Gln Asp Arg Glu His Leu Leu Lys Met Leu Lys Ala Leu Lys Glu  
 130 135 140  
 Asn Pro Lys Leu Lys Glu Ser Ile Lys Thr Leu Phe Val Pro Ser Tyr  
 145 150 155 160  
 Ser Thr Ile Gln Asn Leu Ile Arg His Thr Leu Ala Leu Asn Pro Gln  
 165 170 175  
 Thr Ile Leu Ser Thr Ile His Val Arg Gln Ala Ala Leu Thr Ala Leu  
 180 185 190  
 Phe Thr Tyr Leu Arg Gln Asp Val Gly Ser Cys Phe Ala Thr Ala Pro  
 195 200 205  
 Ala Ile Leu Ile His Gln Glu Tyr Pro Glu Arg Phe Leu Lys Asp Leu  
 210 215 220  
 Asn Asp Leu Ile Ser Ser Gly Lys Leu Ser Arg Ile Val Asn Gln Arg  
 225 230 235 240  
 Glu Ile Ala Val Pro Ile Asn Leu Ser Gly Cys Ile Gly Glu Leu Phe  
 245 250 255

Lys	Pro	Leu	Arg	Ile	Leu	Asp	Leu	Tyr	Pro	Asp	Pro	Leu	Val	Lys	Leu	260	265	270
Ser	Ser	Ser	Pro	Gly	Leu	Lys	Lys	Ala	Phe	Ser	Ala	Ala	Asn	Leu	Ile	275	280	285
Glu	Thr	Leu	Gly	Asp	Ser	Glu	Ala	Gln	Ile	Gln	Gln	Leu	Leu	Ser	His	290	295	300
Gln	Tyr	Leu	Met	Gln	Lys	Leu	Gln	Asn	Val	His	Glu	Thr	Leu	Thr	Ala	305	310	315
Asn	Asp	Ile	Ile	Lys	Ser	Thr	Leu	Leu	His	Tyr	Tyr	Gln	Leu	Gln	Glu	325	330	335
Ser	Thr	Val	Arg	Ala	Ile	Phe	Phe	Lys	Glu	Gly	Leu	Phe	Ser	Lys	Glu	340	345	350
Gln	Val	Ala	Phe	Ser	Thr	Gln	His	Pro	Arg	Glu	Leu	Ser	Glu	Ile	Gln	355	360	365
Arg	Val	Tyr	His	Tyr	Leu	His	Ala	Tyr	Glu	Glu	Ala	Lys	Ser	Ala	Phe	370	375	380
Ile	His	Asp	Thr	Gln	Asn	Pro	Leu	Leu	Lys	Ala	Trp	Glu	Tyr	Thr	Leu	385	390	395
Ala	Thr	Leu	Ala	Asp	Ala	Ser	Gln	Pro	Thr	Ile	Ser	Asn	His	Ile	Arg	405	410	415
Leu	Ala	Leu	Gly	Trp	Lys	Ser	Glu	Asp	Pro	His	Ser	Leu	Val	Ser	Leu	420	425	430
Val	Thr	His	Phe	Val	Glu	Glu	Glu	Val	Glu	Asn	Ile	Arg	Ile	Leu	Val	435	440	445
Gln	Gln	Cys	Glu	Gln	Thr	Tyr	His	Glu	Ala	Arg	Ser	Gln	Leu	Glu	Tyr	450	455	460
Ile	Glu	Gly	Arg	Met	Arg	Asn	Pro	Leu	Asn	Asn	Gln	Asp	Ser	Gln	Ile	465	470	475
Leu	Thr	Met	Asp	His	Met	Arg	Phe	Arg	Gln	Glu	Leu	Asn	Lys	Ala	Leu	485	490	495
Tyr	Glu	Trp	Asp	Ser	Ala	Gln	Glu	Lys	Ala	Lys	Lys	Phe	Leu	His	Leu	500	505	510
Pro	Glu	Phe	Leu	Leu	Ser	Phe	Tyr	Thr	Lys	Gln	Ile	Pro	Leu	Tyr	Phe	515	520	525
Arg	Ser	Ser	Tyr	Asp	Ala	Phe	Ile	Gln	Glu	Phe	Ala	His	Leu	Tyr	Ala	530	535	540
Asn	Ala	Pro	Ala	Gly	Phe	Arg	Ile	Leu	Phe	Thr	His	Gly	Arg	Thr	His	545	550	555
Pro	Asn	Thr	Trp	Ser	Pro	Ile	Tyr	Ser	Ile	Asn	Glu	Phe	Ile	Arg	Phe	565	570	575
Leu	Ser	Glu	Phe	Phe	Thr	Ser	Thr	Glu	Ser	Glu	Leu	Leu	Gly	Lys	His	580	585	590
Ala	Val	Ile	Asn	Leu	Glu	Lys	Glu	Thr	Ser	Arg	Leu	Val	His	Asn	Ile	595	600	605
Thr	Ala	Met	Leu	His	Thr	Asp	Val	Phe	Gln	Glu	Ala	Leu	Leu	Thr	Arg	610	615	620
Ile	Leu	Glu	Ala	Tyr	Gln	Leu	Pro	Val	Pro	Pro	Ser	Ile	Leu	Asn	His	625	630	635
Leu	Asp	Gln	Leu	Ser	Gln	Thr	Pro	Trp	Val	Tyr	Val	Ser	Gly	Gly	Thr	645	650	655
Val	Asp	Thr	Leu	Leu	Leu	Asp	Tyr	Phe	Glu	Ser	Ser	Glu	Pro	Leu	Thr	660	665	670
Leu	Thr	Glu	Lys	His	Pro	Glu	Asn	Pro	His	Glu	Leu	Ala	Ala	Phe	Tyr	675	680	685
Ala	Asp	Ala	Leu	Lys	Asp	Leu	Pro	Thr	Gly	Ile	Lys	Ser	Tyr	Leu	Glu	690	695	700
Glu	Gly	Ser	His	Ser	Leu	Leu	Ser	Ser	Ser	Pro	Thr	His	Val	Phe	Ser	705	710	715
Ile	Ile	Ala	Gly	Ser	Pro	Leu	Phe	Arg	Glu	Ala	Trp	Asp	Asn	Asp	Trp	725	730	735

Tyr	Ser	Tyr	Thr	Trp	Leu	Arg	Asp	Val	Trp	Val	Lys	Gln	His	Gln	Asp	
			740					745					750			
Phe	Leu	Gln	Asp	Thr	Ile	Leu	Pro	Gln	Leu	Ser	Ile	Tyr	Ala	Phe	Ile	
		755					760					765				
Glu	Asn	Phe	Cys	Asn	Lys	Tyr	Ala	Leu	Gln	His	Val	Val	His	Asp	Phe	
	770					775					780					
His	Asp	Phe	Cys	Ser	Asp	His	Ser	Leu	Thr	Leu	Pro	Glu	Leu	Tyr	Asp	
785					790					795					800	
Lys	Gly	Ser	Arg	Phe	Leu	Ser	Ser	Leu	Phe	Thr	Lys	Asp	Lys	Thr	Val	
				805					810						815	
Ala	Leu	Ile	Tyr	Ile	Arg	Arg	Leu	Leu	Tyr	Leu	Met	Val	Arg	Glu	Val	
			820					825					830			
Pro	Tyr	Val	Ser	Glu	Gln	Gln	Leu	Pro	Glu	Val	Leu	Asp	Asn	Val	Ser	
		835					840					845				
Ser	Tyr	Leu	Gly	Ile	Ser	Ser	Arg	Ile	Thr	Tyr	Glu	Lys	Phe	Arg	Ser	
	850					855					860					
Leu	Ile	Glu	Glu	Thr	Ile	Pro	Lys	Met	Thr	Leu	Ser	Ser	Ala	Asp		
865					870					875					880	
Leu	Arg	His	Ile	Tyr	Lys	Gly	Leu	Leu	Met	Gln	Ser	Tyr	Gln	Lys	Ile	
				885				890							895	
Tyr	Thr	Glu	Glu	Asp	Thr	Tyr	Leu	Arg	Leu	Thr	Thr	Ala	Met	Arg	His	
			900					905					910			
His	Asn	Leu	Ala	Tyr	Pro	Ala	Pro	Leu	Leu	Phe	Ala	Asp	Ser	Asn	Trp	
		915					920					925				
Pro	Ser	Ile	Tyr	Phe	Gly	Phe	Ile	Leu	Asn	Pro	Gly	Thr	Thr	Glu	Ile	
	930					935					940					
Asp	Leu	Trp	Lys	Phe	Asn	Tyr	Ala	Gly	Leu	Gln	Gly	Gln	Pro	Leu	Asp	
945					950					955					960	
Asn	Ile	Gln	Glu	Leu	Phe	Ala	Thr	Ser	Arg	Pro	Trp	Thr	Leu	Tyr	Ala	
				965				970							975	
Asn	Pro	Ile	Asp	Tyr	Gly	Met	Pro	Pro	Pro	Pro	Gly	Tyr	Arg	Ser	Arg	
			980					985					990			
Leu	Pro	Lys	Glu	Phe	Phe											
			995													

<210> 794

<211> 616

<212> PRT

<213> Chlamydia pneumoniae

<400> 794

Arg	His	His	Leu	Ile	Asn	Ile	Lys	Gly	Ile	Arg	Ile	Met	Lys	His	Thr	
1				5					10					15		
Phe	Thr	Lys	Arg	Val	Leu	Phe	Phe	Phe	Phe	Leu	Val	Ile	Pro	Ile	Pro	
			20					25					30			
Leu	Leu	Leu	Asn	Leu	Met	Val	Val	Gly	Phe	Phe	Ser	Phe	Ser	Ala	Ala	
		35					40					45				
Lys	Ala	Asn	Leu	Val	Gln	Val	Leu	His	Thr	Arg	Ala	Thr	Asn	Leu	Ser	
	50					55					60					
Ile	Glu	Phe	Glu	Lys	Lys	Leu	Thr	Ile	His	Lys	Leu	Phe	Leu	Asp	Arg	
65					70					75					80	
Leu	Ala	Asn	Thr	Leu	Ala	Leu	Lys	Ser	Tyr	Ala	Ser	Pro	Ser	Ala	Glu	
				85					90					95		
Pro	Tyr	Ala	Gln	Ala	Tyr	Asn	Glu	Met	Met	Ala	Leu	Ser	Asn	Thr	Asp	
			100					105					110			
Phe	Ser	Leu	Cys	Leu	Ile	Asp	Pro	Phe	Asp	Gly	Ser	Val	Arg	Thr	Lys	
		115					120					125				
Asn	Pro	Gly	Asp	Pro	Phe	Ile	Arg	Tyr	Leu	Lys	Gln	His	Pro	Glu	Met	
	130					135					140					
Lys	Lys	Lys	Leu	Ser	Ala	Ala	Val	Gly	Lys	Ala	Phe	Leu	Leu	Thr	Ile	
145					150					155					160	

Pro	Gly	Lys	Pro	Leu	Leu	His	Tyr	Leu	Ile	Leu	Val	Glu	Asp	Val	Ala		
				165					170					175			
Ser	Trp	Asp	Ser	Thr	Thr	Thr	Ser	Gly	Leu	Leu	Val	Ser	Phe	Tyr	Pro		
			180					185					190				
Met	Ser	Phe	Leu	Gln	Lys	Asp	Leu	Phe	Gln	Ser	Leu	His	Ile	Thr	Lys		
		195					200					205					
Gly	Asn	Ile	Cys	Leu	Val	Asn	Lys	Tyr	Gly	Glu	Val	Leu	Phe	Cys	Ala		
	210					215					220						
Gln	Asp	Ser	Glu	Ser	Ser	Phe	Val	Phe	Ser	Leu	Asp	Leu	Pro	Asn	Leu		
225					230					235					240		
Pro	Gln	Phe	Gln	Ala	Arg	Ser	Pro	Ser	Ala	Ile	Glu	Ile	Glu	Lys	Ala		
				245					250					255			
Ser	Gly	Ile	Leu	Gly	Gly	Glu	Asn	Leu	Ile	Thr	Val	Ser	Ile	Asn	Lys		
		260						265					270				
Lys	Arg	Tyr	Leu	Gly	Leu	Val	Leu	Asn	Lys	Ile	Pro	Ile	Gln	Gly	Thr		
	275							280				285					
Tyr	Thr	Leu	Ser	Leu	Val	Pro	Val	Ser	Asp	Leu	Ile	Gln	Ser	Ala	Leu		
	290					295					300						
Lys	Val	Pro	Leu	Asn	Ile	Cys	Phe	Phe	Tyr	Val	Leu	Ala	Phe	Leu	Leu		
305					310					315					320		
Met	Trp	Trp	Ile	Phe	Ser	Lys	Ile	Asn	Thr	Lys	Leu	Asn	Lys	Pro	Leu		
				325					330					335			
Gln	Glu	Leu	Thr	Phe	Cys	Met	Glu	Ala	Ala	Trp	Arg	Gly	Asn	His	Asn		
			340					345					350				
Val	Arg	Phe	Glu	Pro	Gln	Pro	Tyr	Gly	Tyr	Glu	Phe	Asn	Glu	Leu	Gly		
	355						360					365					
Asn	Ile	Phe	Asn	Cys	Thr	Leu	Leu	Leu	Leu	Leu	Asn	Ser	Ile	Glu	Lys		
	370					375					380						
Ala	Asp	Ile	Asp	Tyr	His	Ser	Gly	Glu	Lys	Leu	Gln	Lys	Glu	Leu	Gly		
385					390					395					400		
Ile	Leu	Ser	Ser	Leu	Gln	Ser	Ala	Leu	Leu	Ser	Pro	Asp	Phe	Pro	Thr		
				405					410					415			
Phe	Pro	Lys	Val	Thr	Phe	Ser	Ser	Gln	His	Leu	Arg	Arg	Arg	Gln	Leu		
			420					425					430				
Ser	Gly	His	Phe	Asn	Gly	Trp	Thr	Val	Gln	Asp	Gly	Gly	Asp	Thr	Leu		
	435						440					445					
Leu	Gly	Ile	Ile	Gly	Leu	Ala	Gly	Asp	Ile	Gly	Leu	Pro	Ser	Tyr	Leu		
	450					455					460						
Tyr	Ala	Leu	Ser	Ala	Arg	Ser	Leu	Phe	Leu	Ala	Tyr	Ala	Ser	Ser	Asp		
465					470					475					480		
Val	Ser	Leu	Gln	Lys	Ile	Ser	Lys	Asp	Thr	Ala	Asp	Ser	Phe	Ser	Lys		
				485					490					495			
Thr	Thr	Glu	Gly	Asn	Glu	Ala	Val	Val	Ala	Met	Thr	Phe	Ile	Lys	Tyr		
			500					505					510				
Val	Glu	Lys	Asp	Arg	Ser	Leu	Glu	Leu	Leu	Ser	Leu	Ser	Glu	Gly	Ala		
	515						520					525					
Pro	Thr	Met	Phe	Leu	Gln	Arg	Gly	Glu	Ser	Phe	Val	Arg	Leu	Pro	Leu		
	530					535					540						
Glu	Thr	His	Gln	Ala	Leu	Gln	Pro	Gly	Asp	Arg	Leu	Ile	Cys	Leu	Thr		
					550					555					560		
Gly	Gly	Glu	Asp	Ile	Leu	Lys	Tyr	Phe	Ser	Gln	Leu	Pro	Ile	Glu	Glu		
				565					570					575			
Leu	Leu	Lys	Asp	Pro	Leu	Asn	Pro	Leu	Asn	Thr	Glu	Asn	Leu	Ile	Asp		
			580					585					590				
Ser	Leu	Thr	Met	Met	Leu	Asn	Asn	Glu	Thr	Glu	His	Ser	Ala	Asp	Gly		
	595						600						605				
Thr	Leu	Thr	Ile	Leu	Ser	Phe	Ser										
	610					615											

<210> 795  
 <211> 640  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 795  
 Ser Ala Val Ile Pro Met Ile Pro Phe Thr Lys Thr Ile Gly Phe Arg  
 1 5 10 15  
 Leu Trp Leu Ala Cys Ala Val Ala Ile Ala Pro Leu Gly Ile Asn  
 20 25 30  
 Ile Val Trp Leu Asn Leu Asp Gln Tyr Arg Thr Ile Val Ser Ala Ile  
 35 40 45  
 Ser Thr Ala Leu Lys Glu Asn Ala Ala Phe Lys Ala Asn Thr Leu Thr  
 50 55 60  
 Gln Ile Val Pro Leu Asn Val Asp Val Leu Ser Leu Phe Ser Asp Val  
 65 70 75 80  
 Leu Asp Leu Asp Ala Gly Ile Pro Glu Thr Pro Asn Val Leu Leu Ser  
 85 90 95  
 Asn Glu Met Gln Lys Val Phe Gln Gly Ile Tyr Asn Glu Ile Ser Leu  
 100 105 110  
 Ile Lys Val Phe Pro Asn Gly Asp Lys Ile Val Val Ala Ser Ser Ile  
 115 120 125  
 Pro Glu His Leu Gly Glu Asn Tyr Asn His Lys Ile Asp Ile Pro Lys  
 130 135 140  
 Asn Thr Pro Phe Leu Ala Ala Leu Lys Gln Ser Pro Lys Asn Gln Glu  
 145 150 155 160  
 Val Phe Ser Val Met Gln Ala Asn Val Phe Asp Ala Lys Thr Gln Glu  
 165 170 175  
 Leu Gln Gly Ile Leu Tyr Thr Thr Phe Ser Ala Glu Ser Leu Leu Lys  
 180 185 190  
 Asp Leu Leu Ile Asn Lys Gln Ser Tyr Leu Thr Val Lys Thr Ala Ile  
 195 200 205  
 Leu Ser Lys Tyr Gly Val Ile Leu Lys Ala Ser Asp Pro Ala Leu His  
 210 215 220  
 Leu His Thr Val Tyr Pro Asp Met Thr Lys Glu Lys Phe Cys Gln Val  
 225 230 235 240  
 Phe Leu Asn Asp Asp Pro Cys Pro Ile Asp Ser Glu Leu Gly Pro Leu  
 245 250 255  
 Thr Leu Ser Pro Leu Asp Ile Gly Glu Asn Phe Tyr Ser Phe Lys Ile  
 260 265 270  
 Lys Asp Thr Glu Ile Trp Gly Cys Ile Glu Asn Val Pro Ser Ile Asp  
 275 280 285  
 Ile Ala Val Leu Ser Tyr Ala Lys Lys Glu Glu Ser Phe Ala Pro Leu  
 290 295 300  
 Trp Arg Arg Ala Arg Met Tyr Thr Ala Tyr Phe Phe Cys Ile Leu Leu  
 305 310 315 320  
 Gly Ser Leu Ile Ala Phe Ile Val Ala Arg Arg Leu Ser Leu Pro Ile  
 325 330 335  
 Arg Lys Leu Ala Thr Ala Met Ile Glu Ser Arg Lys Asn Lys Asn Cys  
 340 345 350  
 Leu Tyr Thr Asp Asp Ser Leu Gly Phe Glu Ile Asn Arg Leu Gly His  
 355 360 365  
 Ile Phe Asn Ala Met Val Glu Asn Leu His Lys Gln Gln His Leu Ala  
 370 375 380  
 Lys Thr Asn Phe Glu Met Lys Glu Asn Ala Gln Asn Ala Leu His Leu  
 385 390 395 400  
 Gly Glu Gln Ala Gln Gln Arg Leu Leu Pro Asn Thr Leu Pro Ser Tyr  
 405 410 415  
 Pro His Ile Glu Leu Ala Lys Ala Tyr Ile Pro Ala Ile Thr Val Gly  
 420 425 430

Gly	Asp	Phe	Phe	Asp	Val	Phe	Val	Val	Gly	Glu	Gly	Ser	Lys	Ala	Arg
		435					440					445			
Leu	Phe	Leu	Ile	Val	Ala	Asp	Ala	Ser	Gly	Lys	Gly	Val	Asn	Ala	Cys
		450				455					460				
Gly	Tyr	Ser	Leu	Phe	Leu	Lys	Asn	Met	Leu	Arg	Thr	Phe	Leu	Ser	Arg
465					470					475				480	
Ser	Ser	Ser	Leu	Gln	Ala	Ile	Gln	Glu	Thr	Ser	Arg	Leu	Phe	Tyr	
				485				490					495		
Asn	Asn	Thr	Lys	Asn	Ser	Gly	Met	Phe	Val	Thr	Leu	Cys	Val	Tyr	Cys
			500					505					510		
Tyr	His	Gln	Thr	Ser	Asn	Thr	Met	Glu	Tyr	Tyr	Ser	Cys	Gly	His	Pro
		515					520					525			
Pro	Ala	Cys	Tyr	Leu	Asp	Pro	Asp	Gly	Glu	Thr	Ser	Trp	Leu	Phe	His
		530				535					540				
Pro	Gly	Met	Ala	Leu	Gly	Phe	Leu	Pro	Glu	Val	Ala	Asn	Ile	Thr	Ser
545					550					555				560	
Lys	Leu	Phe	His	Pro	Lys	Pro	Gly	Ser	Leu	Phe	Val	Leu	Tyr	Ser	Asp
				565				570					575		
Gly	Ile	Thr	Glu	Ala	His	Asn	Asn	Asn	Asn	Asp	Met	Phe	Gly	Glu	Glu
			580				585						590		
Arg	Leu	Gln	Ala	Ala	Ile	Gln	Gly	Leu	Thr	Gly	Lys	Ser	Ala	Ala	Asp
		595					600					605			
Ala	Val	His	Arg	Leu	Met	Leu	Ser	Val	Lys	Thr	Phe	Val	Gly	Asn	Ser
		610				615					620				
His	Gln	His	Asp	Asp	Ile	Thr	Leu	Leu	Ile	Leu	Lys	Val	Leu	Glu	Ser
625					630					635				640	

<210> 796

<211> 294

<212> PRT

<213> Chlamydia pneumoniae

<400> 796

Lys	Ser	Ser	Lys	His	Arg	Ser	Phe	Leu	Leu	Lys	Lys	Ser	Gly	Gly	Asn
1				5				10						15	
Gln	Val	Ser	Leu	Tyr	Gln	Lys	Trp	Trp	Asn	Ser	Gln	Leu	Lys	Lys	Ser
			20					25					30		
Leu	Cys	Tyr	Ser	Thr	Val	Ala	Ala	Leu	Ile	Phe	Met	Ile	Pro	Ser	Gln
		35					40					45			
Glu	Ser	Phe	Ala	Asp	Ser	Leu	Ile	Asp	Leu	Asn	Leu	Gly	Leu	Asp	Pro
		50				55					60				
Ser	Val	Glu	Cys	Leu	Ser	Gly	Asp	Gly	Ala	Phe	Ser	Val	Gly	Tyr	Phe
65					70					75				80	
Thr	Lys	Ala	Gly	Ser	Thr	Pro	Val	Glu	Tyr	Gln	Pro	Phe	Lys	Tyr	Asp
				85				90					95		
Val	Ser	Lys	Lys	Thr	Phe	Thr	Ile	Leu	Ser	Val	Glu	Thr	Ala	Asn	Gln
			100					105					110		
Ser	Gly	Tyr	Ala	Tyr	Gly	Ile	Ser	Tyr	Asp	Gly	Thr	Ile	Thr	Val	Gly
		115				120						125			
Thr	Cys	Ser	Leu	Gly	Ala	Gly	Lys	Tyr	Asn	Gly	Ala	Lys	Trp	Ser	Ala
		130				135					140				
Asp	Gly	Thr	Leu	Thr	Pro	Leu	Thr	Gly	Ile	Thr	Gly	Gly	Thr	Ser	His
145					150					155				160	
Thr	Glu	Ala	Arg	Ala	Ile	Ser	Lys	Asp	Thr	Gln	Val	Ile	Glu	Gly	Phe
				165				170					175		
Ser	Tyr	Asp	Ala	Ser	Gly	Gln	Pro	Lys	Ala	Val	Gln	Trp	Ala	Ser	Gly
			180				185						190		
Ala	Thr	Thr	Val	Thr	Gln	Leu	Ala	Asp	Ile	Ser	Gly	Gly	Ser	Arg	Ser
		195				200						205			
Ser	Tyr	Ala	Tyr	Ala	Ile	Ser	Asp	Asp	Gly	Thr	Ile	Ile	Val	Gly	Ser
210						215						220			

Met	Glu	Ser	Thr	Ile	Thr	Arg	Lys	Thr	Thr	Ala	Val	Lys	Trp	Val	Asn
225					230					235					240
Asn	Val	Pro	Thr	Tyr	Leu	Gly	Thr	Leu	Gly	Gly	Asp	Ala	Ser	Thr	Gly
				245					250						255
Leu	Tyr	Ile	Ser	Gly	Asp	Gly	Thr	Val	Ile	Val	Gly	Ala	Ala	Asn	Thr
			260					265						270	
Ala	Thr	Val	Thr	Asn	Gly	Asn	Gln	Glu	Ser	His	Ala	Tyr	Met	Tyr	Lys
		275					280					285			
Asp	Asn	Gln	Met	Lys	Asp										
290															

<210> 797

<211> 396

<212> PRT

<213> Chlamydia pneumoniae

<400> 797

Gly	Thr	Leu	Gly	Gly	Ala	Asn	Ser	Ser	Ala	Thr	Gly	Val	Ser	Ser	Asp
1			5						10					15	
Gly	Ser	Val	Ile	Val	Gly	Gln	Ala	Gln	Thr	Ala	Asp	Lys	Ser	Val	His
			20					25					30		
Ala	Phe	Gln	Tyr	Tyr	Asn	Gly	Glu	Met	Lys	Asp	Leu	Gly	Thr	Leu	Gly
			35				40					45			
Gly	Thr	Ser	Ser	Thr	Ala	Lys	Thr	Val	Ser	Pro	Asp	Gly	Lys	Val	Ile
	50					55					60				
Met	Gly	Arg	Ser	Gln	Ile	Ala	Asp	Gly	Ser	Trp	His	Ala	Phe	Met	Cys
65					70					75					80
His	Thr	Asp	Phe	Ser	Ser	Asn	Asn	Val	Leu	Phe	Asp	Leu	Asp	Asn	Thr
				85				90						95	
Tyr	Lys	Thr	Leu	Arg	Glu	Asn	Gly	Arg	Gln	Leu	Asn	Ser	Ile	Phe	Asn
			100					105					110		
Leu	Gln	Asn	Met	Met	Leu	Gln	Arg	Ala	Ser	Asp	His	Glu	Phe	Thr	Glu
		115					120					125			
Phe	Gly	Arg	Ser	Asn	Ile	Ala	Leu	Gly	Ala	Gly	Leu	Tyr	Val	Asn	Ala
	130					135					140				
Leu	Gln	Asn	Leu	Pro	Ser	Asn	Leu	Ala	Ala	Gln	Tyr	Phe	Gly	Ile	Ala
145					150					155					160
Tyr	Lys	Ile	Arg	Pro	Lys	Tyr	Arg	Leu	Gly	Val	Phe	Leu	Asp	His	Asn
				165				170						175	
Phe	Ser	Ser	His	Val	Pro	Asn	Asn	Phe	Asn	Val	Ser	His	Asn	Arg	Leu
			180					185					190		
Trp	Met	Gly	Ala	Phe	Ile	Gly	Trp	Gln	Asp	Ser	Asp	Ala	Leu	Gly	Ser
		195					200					205			
Ser	Val	Lys	Val	Ser	Phe	Gly	Tyr	Gly	Lys	Gln	Lys	Ala	Thr	Ile	Thr
		210				215					220				
Arg	Glu	Gln	Leu	Glu	Asn	Thr	Glu	Ala	Gly	Ser	Gly	Glu	Ser	His	Phe
225					230					235					240
Glu	Gly	Val	Ala	Ala	Gln	Ile	Glu	Gly	Arg	Tyr	Gly	Lys	Ser	Leu	Gly
				245					250					255	
Gly	His	Val	Arg	Val	Gln	Pro	Phe	Leu	Gly	Leu	Gln	Phe	Val	His	Ile
			260					265					270		
Thr	Arg	Lys	Glu	Tyr	Thr	Glu	Asn	Ala	Val	Gln	Phe	Pro	Val	His	Tyr
		275					280					285			
Asp	Pro	Ile	Asp	Tyr	Ser	Thr	Gly	Val	Val	Tyr	Leu	Gly	Ile	Gly	Ser
	290					295					300				
His	Ile	Ala	Leu	Val	Asp	Ser	Leu	His	Val	Gly	Thr	Arg	Met	Gly	Met
305					310					315					320
Glu	Gln	Asn	Phe	Ala	His	Thr	Asp	Arg	Phe	Ser	Gly	Ser	Ile	Ala	
				325				330					335		
Ser	Ile	Gly	Asn	Phe	Val	Phe	Glu	Lys	Leu	Asp	Val	Thr	His	Thr	Arg
			340					345					350		

Ala	Phe	Ala	Glu	Met	Arg	Val	Asn	Tyr	Glu	Leu	Pro	Tyr	Leu	Gln	Ser
		355					360					365			
Leu	Asn	Leu	Ile	Leu	Arg	Val	Asn	Gln	Gln	Pro	Leu	Gln	Gly	Val	Met
	370					375					380				
Gly	Phe	Ser	Ser	Asp	Leu	Arg	Tyr	Ala	Leu	Gly	Phe				
385					390					395					

<210> 798

<211> 687

<212> PRT

<213> Chlamydia pneumoniae

<400> 798

Ser	Glu	Leu	Tyr	Ser	Ser	Tyr	Leu	Gln	Pro	Cys	Leu	Asn	Met	Ser	Ile
1				5				10					15		
Val	Arg	Asn	Ser	Ala	Leu	Pro	Leu	Pro	Cys	Leu	Ser	Arg	Ser	Glu	Thr
		20					25					30			
Phe	Lys	Lys	Val	Arg	Ser	His	Met	Lys	Phe	Met	Lys	Val	Leu	Thr	Pro
	35					40					45				
Trp	Ile	Tyr	Arg	Lys	Asp	Leu	Trp	Val	Thr	Ala	Phe	Leu	Leu	Thr	Ala
	50				55					60					
Ile	Pro	Gly	Ser	Phe	Ala	His	Thr	Leu	Val	Asp	Ile	Ala	Gly	Glu	Pro
65				70				75						80	
Arg	His	Ala	Ala	Gln	Ala	Thr	Gly	Val	Ser	Gly	Asp	Gly	Lys	Ile	Val
			85				90						95		
Ile	Gly	Met	Lys	Val	Pro	Asp	Asp	Pro	Phe	Ala	Ile	Thr	Val	Gly	Phe
		100					105						110		
Gln	Tyr	Ile	Asp	Gly	His	Leu	Gln	Pro	Leu	Glu	Ala	Val	Arg	Pro	Gln
		115				120						125			
Cys	Ser	Val	Tyr	Pro	Asn	Gly	Ile	Thr	Pro	Asp	Gly	Thr	Val	Ile	Val
	130				135					140					
Gly	Thr	Asn	Tyr	Ala	Ile	Gly	Met	Gly	Ser	Val	Ala	Val	Lys	Trp	Val
145				150				155						160	
Asn	Gly	Lys	Val	Ser	Glu	Leu	Pro	Met	Leu	Pro	Asp	Thr	Leu	Asp	Ser
			165				170						175		
Val	Ala	Ser	Ala	Val	Ser	Ala	Asp	Gly	Arg	Val	Ile	Gly	Gly	Asn	Arg
		180				185						190			
Asn	Ile	Asn	Leu	Gly	Ala	Ser	Val	Ala	Val	Lys	Trp	Glu	Asp	Asp	Val
	195					200						205			
Ile	Thr	Gln	Leu	Pro	Ser	Leu	Pro	Asp	Ala	Met	Asn	Ala	Cys	Val	Asn
	210				215						220				
Gly	Ile	Ser	Ser	Asp	Gly	Ser	Ile	Ile	Val	Gly	Thr	Met	Val	Asp	Val
225				230				235						240	
Ser	Trp	Arg	Asn	Thr	Ala	Val	Gln	Trp	Ile	Gly	Asp	Gln	Leu	Ser	Val
			245					250					255		
Ile	Gly	Thr	Leu	Gly	Gly	Thr	Thr	Ser	Val	Ala	Ser	Ala	Ile	Ser	Thr
		260				265						270			
Asp	Gly	Thr	Val	Ile	Val	Gly	Gly	Ser	Glu	Asn	Ala	Asp	Ser	Gln	Thr
	275					280					285				
His	Ala	Tyr	Ala	Tyr	Lys	Asn	Gly	Val	Met	Ser	Asp	Ile	Gly	Thr	Leu
	290				295					300					
Gly	Gly	Phe	Tyr	Ser	Leu	Ala	His	Ala	Val	Ser	Ser	Asp	Gly	Ser	Val
305				310				315						320	
Ile	Val	Gly	Val	Ser	Thr	Asn	Ser	Glu	His	Arg	Tyr	His	Ala	Phe	Gln
			325					330					335		
Tyr	Ala	Asp	Gly	Gln	Met	Val	Asp	Leu	Gly	Thr	Leu	Gly	Gly	Pro	Glu
		340				345						350			
Ser	Tyr	Ala	Gln	Gly	Val	Ser	Gly	Asp	Gly	Lys	Val	Ile	Val	Gly	Arg
	355					360					365				
Ala	Gln	Val	Pro	Ser	Gly	Asp	Trp	His	Ala	Phe	Leu	Cys	Pro	Phe	Gln
	370				375						380				



Ala	Pro	Ser	Pro	Ala	Pro	Val	His	Gly	Gly	Ser	Thr	Val	Val	Thr	Ser	385	390	395	400
Gln	Asn	Pro	Arg	Gly	Met	Val	Asp	Ile	Asn	Ala	Thr	Tyr	Ser	Ser	Leu	405	410	415	
Lys	Asn	Ser	Gln	Gln	Gln	Leu	Gln	Arg	Leu	Leu	Ile	Gln	His	Ser	Ala	420	425	430	
Lys	Val	Glu	Ser	Val	Ser	Ser	Gly	Ala	Pro	Ser	Phe	Thr	Ser	Val	Lys	435	440	445	
Gly	Ala	Ile	Ser	Lys	Gln	Ser	Pro	Ala	Val	Gln	Asn	Asp	Val	Gln	Lys	450	455	460	
Gly	Thr	Phe	Leu	Ser	Tyr	Arg	Ser	Gln	Val	His	Gly	Asn	Val	Gln	Asn	465	470	475	480
Gln	Gln	Leu	Leu	Thr	Gly	Ala	Phe	Met	Asp	Trp	Lys	Leu	Ala	Ser	Ala	485	490	495	
Pro	Lys	Cys	Gly	Phe	Lys	Val	Ala	Leu	His	Tyr	Gly	Ser	Gln	Asp	Ala	500	505	510	
Leu	Val	Glu	Arg	Ala	Ala	Leu	Pro	Tyr	Thr	Glu	Gln	Gly	Leu	Gly	Ser	515	520	525	
Ser	Val	Leu	Ser	Gly	Phe	Gly	Gly	Gln	Val	Gln	Gly	Arg	Tyr	Asp	Phe	530	535	540	
Asn	Leu	Gly	Glu	Thr	Val	Val	Leu	Gln	Pro	Phe	Met	Gly	Ile	Gln	Val	545	550	555	560
Leu	His	Leu	Ser	Arg	Glu	Gly	Tyr	Ser	Glu	Lys	Asn	Val	Arg	Phe	Pro	565	570	575	
Val	Ser	Tyr	Asp	Ser	Val	Ala	Tyr	Ser	Ala	Ala	Thr	Ser	Phe	Met	Gly	580	585	590	
Ala	His	Val	Phe	Ala	Ser	Leu	Ser	Pro	Lys	Met	Ser	Thr	Ala	Ala	Thr	595	600	605	
Leu	Gly	Val	Glu	Arg	Asp	Leu	Asn	Ser	His	Ile	Asp	Glu	Phe	Lys	Gly	610	615	620	
Ser	Val	Ser	Ala	Met	Gly	Asn	Phe	Val	Leu	Glu	Asn	Ser	Thr	Val	Ser	625	630	635	640
Val	Leu	Arg	Pro	Phe	Ala	Ser	Leu	Ala	Met	Tyr	Tyr	Asp	Val	Arg	Gln	645	650	655	
Gln	Gln	Leu	Val	Thr	Leu	Ser	Val	Val	Met	Asn	Gln	Gln	Pro	Leu	Thr	660	665	670	
Gly	Thr	Leu	Ser	Leu	Val	Ser	Gln	Ser	Ser	Tyr	Asn	Leu	Ser	Phe		675	680	685	

<210> 799

<211> 381

<212> PRT

<213> Chlamydia pneumoniae

<400> 799

Val	Leu	Ile	Leu	Thr	Trp	Ile	Asn	Val	Leu	Thr	Lys	Leu	Gly	Leu	Asn	1	5	10	15
Met	Ser	Lys	Lys	Ile	Lys	Val	Leu	Gly	His	Leu	Thr	Leu	Cys	Thr	Leu	20	25	30	
Phe	Arg	Gly	Val	Leu	Cys	Ala	Ala	Leu	Ser	Asn	Ile	Gly	Tyr	Ala		35	40	45	
Ser	Thr	Ser	Gln	Glu	Ser	Pro	Tyr	Gln	Lys	Ser	Ile	Glu	Asp	Trp	Lys	50	55	60	
Gly	Tyr	Thr	Phe	Thr	Asp	Leu	Glu	Leu	Leu	Ser	Lys	Glu	Gly	Trp	Ser	65	70	75	80
Glu	Ala	His	Ala	Val	Ser	Gly	Asn	Gly	Ser	Arg	Ile	Val	Gly	Ala	Ser	85	90	95	
Gly	Ala	Gly	Gln	Gly	Ser	Val	Thr	Ala	Val	Ile	Trp	Glu	Ser	His	Leu	100	105	110	
Ile	Lys	His	Leu	Gly	Thr	Leu	Gly	Glu	Ala	Ser	Ser	Ala	Glu	Gly		115	120	125	

Ile	Ser	Lys	Asp	Gly	Glu	Val	Val	Val	Gly	Trp	Ser	Asp	Thr	Arg	Glu
130						135					140				
Gly	Tyr	Thr	His	Ala	Phe	Val	Phe	Asp	Gly	Arg	Asp	Met	Lys	Asp	Leu
145					150					155					160
Gly	Thr	Leu	Gly	Ala	Thr	Tyr	Ser	Val	Ala	Arg	Gly	Val	Ser	Gly	Asp
				165					170						175
Gly	Ser	Ile	Ile	Val	Gly	Val	Ser	Ala	Thr	Ala	Arg	Gly	Glu	Asp	Tyr
			180					185					190		
Gly	Trp	Gln	Val	Gly	Val	Lys	Trp	Glu	Lys	Gly	Lys	Ile	Lys	Gln	Leu
	195						200					205			
Lys	Leu	Leu	Pro	Gln	Gly	Leu	Trp	Ser	Glu	Ala	Asn	Ala	Ile	Ser	Glu
	210					215					220				
Asp	Gly	Thr	Val	Ile	Val	Gly	Arg	Gly	Glu	Ile	Ser	Arg	Asn	His	Ile
225					230					235					240
Val	Ala	Val	Lys	Trp	Asn	Lys	Asn	Ala	Val	Tyr	Ser	Leu	Gly	Thr	Leu
				245					250						255
Gly	Gly	Ser	Val	Ala	Ser	Ala	Glu	Ala	Ile	Ser	Ala	Asn	Gly	Lys	Val
			260					265					270		
Ile	Val	Gly	Trp	Ser	Thr	Thr	Asn	Asn	Gly	Glu	Thr	His	Ala	Phe	Met
		275					280					285			
His	Lys	Asp	Glu	Thr	Met	His	Asp	Leu	Gly	Thr	Leu	Gly	Gly	Gly	Phe
	290					295					300				
Ser	Val	Ala	Thr	Gly	Val	Ser	Ala	Asp	Gly	Arg	Ala	Ile	Val	Gly	Phe
305					310					315					320
Ser	Ala	Val	Lys	Thr	Gly	Glu	Ile	His	Ala	Phe	Tyr	Tyr	Ala	Glu	Gly
				325					330					335	
Glu	Met	Glu	Asp	Leu	Thr	Thr	Leu	Gly	Gly	Glu	Glu	Ala	Arg	Val	Phe
			340					345					350		
Asp	Ile	Ser	Ser	Glu	Gly	Asn	Asp	Ile	Ile	Gly	Ser	Ile	Lys	Thr	Asp
		355				360						365			
Ala	Gly	Ala	Glu	Arg	Ala	Tyr	Leu	Phe	His	Ile	His	Lys			
	370					375					380				

<210> 800

<211> 349

<212> PRT

<213> Chlamydia pneumoniae

<400> 800

Val	Val	Phe	Glu	Ile	Ile	Phe	Val	Val	Arg	Val	Pro	Met	Lys	Lys	Thr
1				5					10					15	
Cys	Cys	Gln	Asn	Tyr	Arg	Ser	Ile	Gly	Val	Val	Phe	Ser	Val	Val	Leu
			20					25					30		
Phe	Val	Leu	Thr	Thr	Gln	Thr	Leu	Phe	Ala	Gly	His	Phe	Ile	Asp	Ile
		35					40					45			
Gly	Thr	Ser	Gly	Leu	Tyr	Ser	Trp	Ala	Arg	Gly	Val	Ser	Gly	Asp	Gly
	50					55					60				
Arg	Val	Val	Val	Gly	Tyr	Glu	Gly	Gly	Asn	Ala	Phe	Lys	Tyr	Val	Asp
65					70					75					80
Gly	Glu	Lys	Phe	Leu	Leu	Glu	Gly	Leu	Val	Pro	Arg	Ser	Glu	Ala	Leu
				85					90					95	
Val	Phe	Lys	Ala	Ser	Tyr	Asp	Gly	Ser	Val	Ile	Ile	Gly	Ile	Ser	Asp
			100					105					110		
Gln	Asp	Pro	Ser	Cys	Arg	Ala	Val	Lys	Trp	Val	Asn	Gly	Ala	Leu	Val
		115					120					125			
Asp	Leu	Gly	Ile	Phe	Ser	Glu	Gly	Met	Gln	Ser	Phe	Ala	Glu	Gly	Val
	130					135					140				
Ser	Ser	Asp	Gly	Lys	Thr	Ile	Val	Gly	Cys	Leu	Tyr	Ser	Asp	Asp	Thr
145					150					155					160
Glu	Thr	Asn	Phe	Ala	Val	Lys	Trp	Asp	Glu	Thr	Gly	Met	Val	Val	Leu
				165					170					175	

Pro	Asn	Leu	Pro	Glu	Asp	Arg	His	Ser	Cys	Ala	Trp	Asp	Ala	Ser	Glu
			180					185					190		
Asp	Gly	Ser	Val	Ile	Val	Gly	Asp	Ala	Met	Gly	Ser	Glu	Glu	Ile	Ala
		195					200					205			
Lys	Ala	Val	Tyr	Trp	Lys	Asp	Gly	Glu	Gln	His	Leu	Leu	Ser	Asn	Ile
	210					215					220				
Pro	Gly	Ala	Lys	Arg	Ser	Ser	Ala	His	Ala	Val	Ser	Lys	Asp	Gly	Ser
225					230				235					240	
Phe	Ile	Val	Gly	Glu	Phe	Ile	Ser	Glu	Glu	Asn	Glu	Val	His	Ala	Phe
			245					250					255		
Val	Tyr	His	Asn	Gly	Val	Ile	Lys	Asp	Ile	Gly	Thr	Leu	Gly	Gly	Asp
			260					265					270		
Tyr	Ser	Val	Ala	Thr	Gly	Val	Ser	Arg	Asp	Gly	Lys	Val	Ile	Val	Gly
		275					280					285			
His	Ser	Thr	Arg	Thr	Asp	Gly	Glu	Tyr	Arg	Ala	Phe	Lys	Tyr	Val	Asp
	290				295						300				
Gly	Arg	Met	Ile	Asp	Leu	Gly	Thr	Leu	Gly	Gly	Ser	Ala	Ser	Phe	Ala
305					310				315					320	
Phe	Gly	Val	Ser	Asp	Gly	Lys	Thr	Ile	Val	Gly	Lys	Phe	Glu	Thr	
			325				330						335		
Glu	Leu	Gly	Glu	Cys	His	Ala	Phe	Ile	Tyr	Leu	Asp	Asp			
		340					345								

<210> 801

<211> 354

<212> PRT

<213> Chlamydia pneumoniae

<400> 801

Lys	Arg	Glu	Glu	Asn	Met	Ala	Ala	Ile	Lys	Gln	Ile	Leu	Arg	Ser	Met
1				5					10					15	
Leu	Ser	Gln	Ser	Ser	Leu	Trp	Met	Val	Leu	Phe	Ser	Leu	Tyr	Ser	Leu
		20					25					30			
Ser	Gly	Tyr	Cys	Tyr	Val	Ile	Thr	Asp	Lys	Pro	Glu	Asp	Asp	Phe	His
	35					40					45				
Ser	Ser	Ser	Ala	Val	Lys	Trp	Asp	His	Trp	Gly	Lys	Thr	Thr	Leu	Ser
	50				55					60					
Arg	Leu	Ser	Asn	Lys	Lys	Ala	Ser	Ala	Lys	Ala	Val	Ser	Gly	Thr	Gly
65				70					75					80	
Ala	Thr	Thr	Val	Gly	Phe	Ile	Lys	Asp	Thr	Trp	Ser	Arg	Thr	Tyr	Ala
			85					90					95		
Val	Arg	Trp	Asn	Tyr	Trp	Gly	Thr	Lys	Glu	Leu	Pro	Thr	Ser	Ser	Trp
		100					105					110			
Val	Lys	Lys	Ser	Lys	Ala	Thr	Gly	Ile	Ser	Ser	Asp	Gly	Ser	Ile	Ile
	115					120					125				
Ala	Gly	Ile	Val	Glu	Asn	Glu	Leu	Ser	Gln	Ser	Phe	Ala	Val	Thr	Trp
	130				135				140						
Lys	Asn	Asn	Glu	Met	Tyr	Leu	Leu	Pro	Ser	Thr	Trp	Ala	Val	Gln	Ser
145				150					155					160	
Lys	Ala	Tyr	Gly	Ile	Ser	Ser	Asp	Gly	Ser	Val	Ile	Val	Gly	Ser	Ala
			165				170						175		
Lys	Asp	Ala	Trp	Ser	Arg	Thr	Phe	Ala	Val	Lys	Trp	Thr	Gly	His	Glu
	180						185					190			
Ala	Gln	Val	Leu	Pro	Val	Gly	Trp	Ala	Val	Lys	Ser	Val	Ala	Asn	Ser
	195					200					205				
Val	Ser	Ala	Asn	Gly	Ser	Ile	Ile	Val	Gly	Ser	Val	Gln	Asp	Ala	Ser
	210					215					220				
Gly	Ile	Leu	Tyr	Ala	Val	Lys	Trp	Glu	Gly	Asn	Thr	Ile	Thr	His	Leu
225				230					235					240	
Gly	Thr	Leu	Gly	Gly	Tyr	Ser	Ala	Ile	Ala	Lys	Ala	Val	Ser	Asn	Asn
			245					250						255	

Gly Lys Val Ile Val Gly Arg Ser Glu Thr Tyr Tyr Gly Glu Val His  
                   260                  265                  270  
 Ala Phe Cys His Lys Asn Gly Val Met Ser Asp Leu Gly Thr Leu Gly  
                   275                  280                  285  
 Gly Ser Tyr Ser Ala Ala Lys Gly Val Ser Ala Thr Gly Lys Val Ile  
                   290                  295                  300  
 Val Gly Met Ser Thr Thr Ala Asn Gly Lys Leu His Ala Phe Lys Tyr  
 305                  310                  315                  320  
 Val Gly Gly Arg Met Ile Asp Leu Gly Glu Tyr Ser Trp Lys Glu Ala  
                   325                  330                  335  
 Cys Ala Asn Ala Val Ser Ile Asp Gly Glu Ile Ile Val Gly Val Gln  
                   340                  345                  350  
 Ser Glu

<210> 802  
 <211> 434  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 802  
 Arg Lys Glu Ile Lys Ile Met Phe Glu Ala Val Ile Ala Asp Ile Gln  
 1                  5                  10                  15  
 Ala Arg Glu Ile Leu Asp Ser Arg Gly Tyr Pro Thr Leu His Val Lys  
                   20                  25                  30  
 Val Thr Thr Ser Thr Gly Ser Val Gly Glu Ala Arg Val Pro Ser Gly  
                   35                  40                  45  
 Ala Ser Thr Gly Lys Lys Glu Ala Leu Glu Phe Arg Asp Thr Asp Ser  
 50                  55                  60  
 Pro Arg Tyr Gln Gly Lys Gly Val Leu Gln Ala Val Lys Asn Val Lys  
 65                  70                  75                  80  
 Glu Ile Leu Phe Pro Leu Val Lys Gly Cys Ser Val Tyr Glu Gln Ser  
                   85                  90                  95  
 Leu Ile Asp Ser Leu Met Met Asp Ser Asp Gly Ser Pro Asn Lys Glu  
                   100                  105                  110  
 Thr Leu Gly Ala Asn Ala Ile Leu Gly Val Ser Leu Ala Thr Ala His  
                   115                  120                  125  
 Ala Ala Ala Ala Thr Leu Arg Arg Pro Leu Tyr Arg Tyr Leu Gly Gly  
                   130                  135                  140  
 Cys Phe Ala Cys Ser Leu Pro Cys Pro Met Met Asn Leu Ile Asn Gly  
 145                  150                  155                  160  
 Gly Met His Ala Asp Asn Gly Leu Glu Phe Gln Glu Phe Met Ile Arg  
                   165                  170                  175  
 Pro Ile Gly Ala Ser Ser Ile Lys Glu Ala Val Asn Met Gly Ala Asp  
                   180                  185                  190  
 Val Phe His Thr Leu Lys Lys Leu Leu His Glu Arg Gly Leu Ser Thr  
                   195                  200                  205  
 Gly Val Gly Asp Glu Gly Gly Phe Ala Pro Asn Leu Ala Ser Asn Glu  
                   210                  215                  220  
 Glu Ala Leu Glu Leu Leu Leu Ala Ile Glu Lys Ala Gly Phe Thr  
 225                  230                  235                  240  
 Pro Gly Lys Asp Ile Ser Leu Ala Leu Asp Cys Ala Ala Ser Ser Phe  
                   245                  250                  255  
 Tyr Asn Val Lys Thr Gly Thr Tyr Asp Gly Arg His Tyr Glu Glu Gln  
                   260                  265                  270  
 Ile Ala Ile Leu Ser Asn Leu Cys Asp Arg Tyr Pro Ile Asp Ser Ile  
                   275                  280                  285  
 Glu Asp Gly Leu Ala Glu Glu Asp Tyr Asp Gly Trp Ala Leu Leu Thr  
                   290                  295                  300  
 Glu Val Leu Gly Glu Lys Val Gln Ile Val Gly Asp Asp Leu Phe Val  
 305                  310                  315                  320



Ile Glu Asn Tyr Ser Arg His Phe Thr Gly Ala Pro Pro Gly Ala Pro  
 305 310 315 320  
 Pro Thr Cys Leu Leu Asp Tyr Phe Pro Glu Asp Phe Leu Leu Ile Ile  
 325 330 335  
 Asp Glu Ser His Gln Thr Leu Pro Gln Ile Arg Ala Met Tyr Arg Gly  
 340 345 350  
 Asp Gln Ser Arg Lys Gln Ser Leu Val Glu Tyr Gly Phe Arg Leu Pro  
 355 360 365  
 Ser Ala Phe Asp Asn Arg Pro Leu Thr Tyr Glu Glu Ala Gln Lys Tyr  
 370 375 380  
 Phe Arg Lys Val Ile Tyr Val Ser Ala Thr Pro Gly Asp Thr Glu Val  
 385 390 395 400  
 Gln Glu Ser Ser Gly His Ile Val Gln Gln Ile Ile Arg Pro Thr Gly  
 405 410 415  
 Ile Pro Asp Pro Met Pro Glu Ile Arg Pro Ala Thr Gly Gln Val Asp  
 420 425 430  
 Asp Leu Leu Glu Glu Ile Arg Leu Arg Leu Ser Gln Lys His Glu Lys  
 435 440 445  
 Ile Leu Val Ile Ser Ile Thr Lys Lys Leu Ala Glu Asp Met Ala Gly  
 450 455 460  
 Phe Leu Ser Glu Leu Glu Ile Pro Ala Ala Tyr Leu His Ser Gly Ile  
 465 470 475 480  
 Glu Thr Ala Glu Arg Thr Gln Ile Leu Thr Asp Leu Arg Ser Gly Val  
 485 490 495  
 Ile Asp Val Leu Ile Gly Val Asn Leu Leu Arg Glu Gly Leu Asp Leu  
 500 505 510  
 Pro Glu Val Ser Leu Val Ala Ile Leu Asp Ala Asp Lys Glu Gly Phe  
 515 520 525  
 Leu Arg Ser Thr Ser Ser Leu Ile Gln Phe Cys Gly Arg Ala Ala Arg  
 530 535 540  
 Asn Ile Asn Gly Lys Val Ile Phe Tyr Ala Asp Gln Lys Thr Arg Ser  
 545 550 555 560  
 Ile Glu Glu Thr Leu Arg Glu Thr Glu Arg Arg Gln Ile Gln Leu  
 565 570 575  
 Asp Tyr Asn Lys Glu His Asn Ile Val Pro Lys Pro Ile Ile Lys Ala  
 580 585 590  
 Ile Phe Ala Asn Pro Ile Leu Gln Thr Ser Lys Asp Ser Glu Ser Pro  
 595 600 605  
 Lys Glu Ser Gln Arg Pro Leu Ser Lys Glu Asp Leu Glu Glu Gln Ile  
 610 615 620  
 Lys Lys Tyr Glu Ala Leu Met Gln Arg Ala Ala Lys Glu Phe Arg Phe  
 625 630 635 640  
 Asn Glu Ala Ala Lys Tyr Arg Asp Ala Met Gln Ala Cys Lys Glu Gln  
 645 650 655  
 Leu Leu Tyr Leu Phe  
 660

<210> 804  
 <211> 351  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 804  
 Ser Thr Ser Ile Ala Asp Val Met Asn Lys Lys Lys Arg Val Leu Thr  
 1 5 10 15  
 Gly Asp Arg Pro Thr Gly Lys Leu His Leu Gly His Trp Val Gly Ser  
 20 25 30  
 Ile Lys Asn Arg Leu Glu Leu Gln Asn Ser Pro Glu Tyr Asp Cys Phe  
 35 40 45  
 Phe Ile Ile Ala Asp Leu His Thr Leu Thr Thr Lys Ile Arg Lys Glu  
 50 55 60

Glu Val Leu Asp Val Asp Asn His Ile Tyr Glu Val Leu Ala Asp Trp  
 65 70 75 80  
 Leu Ser Val Gly Ile Asp Pro Thr Lys Ser Ile Ile Tyr Leu Gln Ser  
 85 90 95  
 Ala Ile Pro Glu Ile Tyr Glu Leu His Leu Leu Phe Ser Met Leu Ile  
 100 105 110  
 Ser Ile Asn Arg Val Met Gly Ile Pro Ser Leu Lys Asp Met Ala Arg  
 115 120 125  
 Asn Ala Ser Ile Glu Glu Gly Ser Leu Ser Tyr Gly Leu Ile Gly Tyr  
 130 135 140  
 Pro Ile Leu Gln Ser Ala Asp Ile Leu Leu Ala Lys Ala Gln Phe Val  
 145 150 155 160  
 Pro Val Gly Lys Asp Asn Glu Ala His Val Glu Leu Thr Arg Asp Ile  
 165 170 175  
 Ala Arg Asn Phe Asn Arg Leu Tyr Gly Gln Val Phe Pro Glu Pro Glu  
 180 185 190  
 Val Leu Gln Gly Glu Leu Thr Ser Leu Val Gly Ile Asp Gly Gln Gly  
 195 200 205  
 Lys Met Ser Lys Ser Ala Asn Asn Ala Ile Tyr Leu Ser Asp Ser Asp  
 210 215 220  
 Ala Thr Ile Thr Glu Lys Val Arg Lys Met Tyr Thr Asp Pro Asn Arg  
 225 230 235 240  
 Ile Arg Ala Thr Thr Pro Gly Arg Val Glu Gly Asn Pro Leu Phe Ile  
 245 250 255  
 Tyr His Asp Ile Phe Asn Pro His Lys Asp Glu Val Glu Glu Phe Lys  
 260 265 270  
 Ala Arg Tyr Arg Gln Gly Cys Ile Lys Asp Ile Glu Val Lys Ala Arg  
 275 280 285  
 Leu Ala Glu Glu Leu Ile His Phe Leu Lys Pro Ile Lys Glu Arg Arg  
 290 295 300  
 Ser Glu Phe Leu Ser Lys Pro Leu Ala Leu Gln Asn Val Leu Glu Asp  
 305 310 315 320  
 Gly Thr His Lys Met Arg Glu Val Ala Lys Val Thr Met Glu Glu Val  
 325 330 335  
 His Asp Lys Phe Gly Phe Ser His Lys Trp Arg Ser Leu Leu Lys  
 340 345 350

<210> 805

<211> 185

<212> PRT

<213> Chlamydia pneumoniae

<400> 805

Phe Met Ala Ala Lys Thr Lys Thr Leu Glu Leu Glu Asp Asn Val Phe  
 1 5 10 15  
 Leu Leu Leu Glu Gly Asn Leu Lys Arg Ile Phe Ala Thr Pro Ile Gly  
 20 25 30  
 Tyr Thr Thr Phe Arg Glu Phe Gln Asn Val Val Phe Asn Cys Ala Asn  
 35 40 45  
 Gly Gln Gln Glu Ile Ala Asn Phe Phe Phe Glu Met Leu Ile Asn Gly  
 50 55 60  
 Lys Leu Thr Gln Glu Leu Ala Pro Gln Gln Lys Gln Ala Ala His Ser  
 65 70 75 80  
 Leu Ile Ala Glu Phe Met Met Pro Ile Arg Val Ala Lys Asp Ile His  
 85 90 95  
 Glu Arg Gly Glu Phe Ile Asn Phe Ile Thr Ser Asp Met Leu Thr Gln  
 100 105 110  
 Gln Glu Arg Cys Ile Phe Leu Asn Arg Leu Ala Arg Val Asp Gly Gln  
 115 120 125  
 Glu Phe Leu Leu Met Thr Asp Val Gln Asn Thr Cys His Leu Ile Arg  
 130 135 140

His Leu Leu Ala Arg Leu Leu Glu Ala Gln Lys Asn Pro Val Gly Glu  
 145 150 155 160  
 Lys Asn Leu Gln Glu Ile Gln Glu Glu Ile Thr Ser Leu Lys Asn His  
 165 170 175  
 Phe Asp Glu Leu Thr Lys Ala Leu Gln  
 180 185

<210> 806  
 <211> 255  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 806  
 Glu Ile Phe Ser Ser Met Gly Asn Leu Lys Thr Leu Leu Glu Ser Arg  
 1 5 10 15  
 Phe Lys Lys Asn Thr Pro Thr Lys Met Glu Ala Leu Ala Arg Lys Arg  
 20 25 30  
 Met Glu Gly Asp Pro Ser Pro Leu Ala Val Arg Leu Ser Asn Pro Thr  
 35 40 45  
 Leu Ser Ser Lys Glu Lys Glu Gln Leu Arg His Leu Leu Gln His Tyr  
 50 55 60  
 Asn Phe Arg Glu Gln Ile Glu Glu Pro Asp Leu Thr Gln Leu Cys Thr  
 65 70 75 80  
 Leu Ser Ala Glu Val Lys Gln Ile His His Gln Ser Val Leu Leu His  
 85 90 95  
 Gly Glu Arg Ile Thr Lys Val Arg Asp Leu Leu Lys Ser Tyr Arg Glu  
 100 105 110  
 Gly Ala Phe Ser Ser Trp Leu Leu Leu Thr Tyr Gly Asn Arg Gln Thr  
 115 120 125  
 Pro Tyr Asn Phe Leu Val Tyr Tyr Glu Leu Phe Thr Leu Leu Pro Glu  
 130 135 140  
 Pro Leu Lys Ile Glu Met Glu Lys Met Pro Arg Gln Ala Val Tyr Thr  
 145 150 155 160  
 Leu Ala Ser Arg Gln Gly Pro Gln Glu Lys Lys Glu Glu Ile Ile Arg  
 165 170 175  
 Asn Tyr Arg Gly Glu Arg Lys Ser Glu Leu Leu Asp Arg Ile Arg Lys  
 180 185 190  
 Glu Phe Pro Leu Val Glu Thr Asp Cys Arg Lys Thr Ser Pro Val Lys  
 195 200 205  
 Gln Ala Leu Ala Met Leu Thr Lys Gly Ser Gln Ile Leu Thr Lys Cys  
 210 215 220  
 Thr Ser Leu Ser Ser Asp Glu Gln Ile Ile Leu Glu Lys Leu Ile Lys  
 225 230 235 240  
 Lys Leu Glu Lys Val Lys Ser Asn Leu Phe Pro Asp Thr Lys Val  
 245 250 255

<210> 807  
 <211> 260  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 807  
 Gly Tyr Ala Ser Arg Met Lys Thr Ile Ala Val Asn Ser Phe Lys Gly  
 1 5 10 15  
 Gly Thr Ala Lys Thr Ser Thr Thr Leu His Leu Gly Ala Ala Leu Ala  
 20 25 30  
 Gln Tyr His Gln Ala Arg Val Leu Leu Ile Asp Phe Asp Ala Gln Ala  
 35 40 45  
 Asn Leu Thr Ser Gly Leu Gly Leu Asp Pro Asp Cys Tyr Asp Ser Leu  
 50 55 60



Ala	Val	Val	Leu	Gln	Gly	Glu	Lys	Glu	Ile	Gln	Glu	Val	Ile	Arg	Pro
65					70					75					80
Ile	Gln	Asp	Thr	Gln	Leu	Asp	Leu	Ile	Pro	Ala	Asp	Thr	Trp	Leu	Glu
				85					90					95	
Arg	Ile	Glu	Val	Ser	Gly	Asn	Leu	Ala	Ala	Asp	Arg	Tyr	Ser	His	Glu
			100					105					110		
Arg	Leu	Lys	Tyr	Val	Leu	Gly	Ser	Val	Gln	Asp	Lys	Tyr	Asp	Tyr	Val
		115					120					125			
Ile	Ile	Asp	Thr	Pro	Pro	Ser	Leu	Cys	Trp	Leu	Thr	Glu	Ser	Ala	Leu
	130						135				140				
Ile	Ala	Ala	Asp	Tyr	Ala	Leu	Ile	Cys	Ala	Thr	Pro	Glu	Phe	Tyr	Ser
145					150				155						160
Val	Lys	Gly	Leu	Glu	Arg	Leu	Ala	Gly	Phe	Ile	Gln	Gly	Ile	Ser	Ala
				165				170						175	
Arg	His	Pro	Leu	Thr	Ile	Leu	Gly	Val	Ala	Leu	Ser	Phe	Trp	Asn	Cys
			180					185					190		
Arg	Gly	Lys	Asn	Asn	Ser	Ala	Phe	Ala	Glu	Leu	Ile	His	Lys	Thr	Phe
		195					200					205			
Pro	Gly	Lys	Leu	Leu	Asn	Thr	Lys	Ile	Arg	Arg	Asp	Ile	Thr	Val	Ser
	210					215					220				
Glu	Ala	Ala	Ile	His	Gly	Lys	Pro	Val	Phe	Ala	Thr	Ser	Pro	Ser	Ala
225					230				235						240
Arg	Ala	Ser	Glu	Asp	Tyr	Phe	Asn	Leu	Thr	Lys	Glu	Leu	Leu	Ile	Leu
				245					250					255	
Leu	Arg	Asp	Ile												
			260												

<210> 808

<211> 650

<212> PRT

<213> Chlamydia pneumoniae

<400> 808

Asn	Ala	Asn	Asn	Glu	Ser	Pro	Pro	Asn	Met	Glu	Ala	Trp	Asn	Lys	Met
1				5					10					15	
Ile	Gln	Val	Thr	Cys	Asp	Gln	Lys	Asn	Tyr	Glu	Val	Leu	Glu	Gly	Thr
			20					25					30		
Thr	Ala	Ala	Glu	Leu	Ala	Lys	Gln	Leu	Lys	Asn	Ser	His	Gln	Phe	Ile
		35					40					45			
Gly	Val	Leu	Ile	Asn	Glu	Arg	Pro	Arg	Asp	Leu	Ser	Thr	His	Leu	Asn
	50				55					60					
Glu	Gly	Asp	Thr	Leu	Val	Phe	Leu	Thr	Ser	Glu	Asp	Pro	Glu	Gly	Arg
65					70					75					80
Glu	Ile	Phe	Leu	His	Thr	Ser	Ala	His	Leu	Leu	Ala	Gln	Ala	Val	Leu
				85					90					95	
Arg	Leu	Trp	Pro	Asp	Ala	Ile	Pro	Thr	Ile	Gly	Pro	Val	Ile	Asp	His
			100					105					110		
Gly	Phe	Tyr	Tyr	Asp	Phe	Ala	Asn	Leu	Ser	Ile	Ser	Glu	Ser	Asp	Phe
		115					120					125			
Pro	Leu	Ile	Glu	Asp	Thr	Val	Lys	Gln	Ile	Val	Asp	Glu	Lys	Leu	Ala
	130					135					140				
Ile	Ser	Arg	Phe	Thr	Tyr	Gly	Asp	Lys	Gln	Gln	Ala	Leu	Ala	Gln	Phe
145					150					155					160
Pro	Gln	Asn	Pro	Phe	Lys	Thr	Glu	Leu	Ile	Arg	Glu	Leu	Pro	Glu	Asn
				165					170					175	
Glu	Glu	Ile	Ser	Ala	Tyr	Ser	Gln	Gly	Glu	Phe	Phe	Asp	Leu	Cys	Arg
			180					185					190		
Gly	Pro	His	Leu	Pro	Ser	Thr	Ala	His	Val	Lys	Ala	Phe	Lys	Val	Leu
		195					200					205			
Arg	Thr	Ser	Ala	Ala	Tyr	Trp	Arg	Gly	Asp	Pro	Ser	Arg	Glu	Ser	Leu
	210					215						220			

Val	Arg	Ile	Tyr	Gly	Thr	Ser	Phe	Pro	Thr	Ser	Lys	Glu	Leu	Arg	Ala	225	230	235	240
His	Leu	Glu	Gln	Ile	Glu	Glu	Ala	Lys	Lys	Arg	Asp	His	Arg	Val	Leu	245	250	255	
Gly	Ala	Lys	Leu	Asp	Leu	Phe	Ser	Gln	Gln	Glu	Ser	Ser	Pro	Gly	Met	260	265	270	
Pro	Phe	Phe	His	Pro	Arg	Gly	Met	Ile	Val	Trp	Asp	Ala	Leu	Ile	Arg	275	280	285	
Tyr	Trp	Lys	Gln	Leu	His	Thr	Ala	Ala	Gly	Tyr	Lys	Glu	Ile	Leu	Thr	290	295	300	
Pro	Gln	Leu	Met	Asn	Arg	Gln	Leu	Trp	Glu	Val	Ser	Gly	His	Trp	Asp	305	310	315	320
Asn	Tyr	Lys	Ala	Asn	Met	Tyr	Thr	Leu	Gln	Ile	Asp	Asp	Glu	Asp	Tyr	325	330	335	
Ala	Ile	Lys	Pro	Met	Asn	Cys	Pro	Gly	Cys	Met	Leu	Tyr	Tyr	Lys	Thr	340	345	350	
Arg	Leu	His	Ser	Tyr	Lys	Glu	Phe	Pro	Leu	Arg	Val	Ala	Glu	Val	Gly	355	360	365	
His	Val	His	Arg	Gln	Glu	Ala	Ser	Gly	Ala	Leu	Ser	Gly	Leu	Met	Arg	370	375	380	
Val	Arg	Ala	Phe	His	Gln	Asp	Asp	Ala	His	Val	Phe	Leu	Thr	Pro	Glu	385	390	395	400
Gln	Val	Glu	Glu	Glu	Thr	Leu	Asn	Ile	Leu	Gln	Leu	Val	Ser	Thr	Leu	405	410	415	
Tyr	Gly	Thr	Phe	Gly	Leu	Glu	Tyr	His	Leu	Glu	Leu	Ser	Thr	Arg	Pro	420	425	430	
Glu	Lys	Asp	Thr	Ile	Gly	Asp	Asp	Ser	Leu	Trp	Glu	Leu	Ala	Thr	Asp	435	440	445	
Ala	Leu	Asn	Arg	Ala	Leu	Val	Gln	Ser	Gly	Thr	Pro	Phe	Ile	Val	Arg	450	455	460	
Pro	Gly	Glu	Gly	Ala	Phe	Tyr	Gly	Pro	Lys	Ile	Asp	Ile	His	Val	Lys	465	470	475	480
Asp	Ala	Ile	Gln	Arg	Thr	Trp	Gln	Cys	Gly	Thr	Ile	Gln	Leu	Asp	Met	485	490	495	
Phe	Leu	Pro	Glu	Arg	Phe	Glu	Leu	Glu	Tyr	Thr	Thr	Ala	Gln	Gly	Thr	500	505	510	
Lys	Ser	Val	Pro	Val	Met	Leu	His	Arg	Ala	Leu	Phe	Gly	Ser	Ile	Glu	515	520	525	
Arg	Phe	Leu	Gly	Ile	Leu	Ile	Glu	Asn	Phe	Lys	Gly	Arg	Phe	Pro	Leu	530	535	540	
Trp	Leu	Ser	Pro	Glu	Gln	Val	Arg	Ile	Ile	Thr	Val	Ala	Asp	Arg	His	545	550	555	560
Ile	Pro	Arg	Ala	Lys	Glu	Leu	Glu	Glu	Ala	Trp	Lys	Arg	Leu	Gly	Leu	565	570	575	
Val	Val	Thr	Leu	Asp	Asp	Ser	Ser	Glu	Ser	Val	Ser	Lys	Lys	Ile	Arg	580	585	590	
Asn	Ala	Gln	Asn	Met	Gln	Val	Asn	Tyr	Met	Ile	Thr	Leu	Gly	Asp	His	595	600	605	
Glu	Ile	Asn	Glu	Asn	Val	Leu	Ala	Val	Arg	Thr	Arg	Asp	Asn	Arg	Val	610	615	620	
Ile	Asn	Asp	Val	Ser	Val	Glu	Arg	Phe	Leu	Asn	Thr	Ile	Leu	Glu	Glu	625	630	635	640
Lys	Asn	Ser	Leu	Ser	Leu	Thr	Ala	Leu	Leu							645	650		

<210> 809

<211> 310

<212> PRT

<213> Chlamydia pneumoniae

<400> 809

Thr	Leu	Gln	Thr	Gly	Leu	His	Met	Ser	Leu	Phe	Leu	Val	Phe	Leu	Thr
1				5					10					15	
Ala	Phe	Ile	Trp	Ser	Ser	Ser	Phe	Ala	Leu	Ser	Lys	Leu	Val	Met	Asn
			20					25					30		
Ala	Ser	Ala	Pro	Ile	Phe	Ala	Thr	Gly	Ala	Arg	Met	Val	Ile	Ala	Gly
		35					40					45			
Ala	Ile	Leu	Ala	Leu	Ala	Ala	Trp	Phe	Arg	Gly	Gly	Phe	Val	Gly	Ile
	50					55					60				
Ser	Lys	Lys	Ile	Phe	Leu	Tyr	Ile	Val	Leu	Leu	Ala	Leu	Thr	Gly	Phe
65					70					75					80
Tyr	Leu	Thr	Asn	Ile	Phe	Glu	Phe	Ile	Gly	Leu	Gln	Ser	Leu	Ser	Ser
			85						90					95	
Ser	Lys	Thr	Cys	Phe	Ile	Tyr	Gly	Leu	Ser	Pro	Leu	Met	Ser	Ala	Leu
			100					105					110		
Phe	Ser	Tyr	Ile	Gln	Leu	Lys	Glu	Lys	Val	Thr	Leu	Lys	Lys	Val	Leu
		115					120					125			
Gly	Leu	Ser	Leu	Gly	Leu	Val	Ser	Tyr	Ile	Cys	Tyr	Leu	Thr	Phe	Gly
	130					135					140				
Gly	Gly	Gly	Asp	Asp	Ser	Gln	Pro	Trp	Thr	Trp	Gln	Ile	Gly	Leu	Pro
145					150					155					160
Glu	Leu	Leu	Ile	Leu	Gly	Ala	Ala	Ser	Leu	Ala	Ser	Phe	Gly	Trp	Thr
			165					170						175	
Leu	Leu	Arg	Gln	Ile	Glu	Lys	Gln	Ser	Thr	Leu	Ser	Val	Thr	Ala	Ile
			180					185					190		
Asn	Ala	Tyr	Ala	Met	Leu	Ile	Ala	Gly	Met	Leu	Ser	Ile	Met	His	Ser
		195					200					205			
Ala	Val	Val	Glu	Pro	Trp	Arg	Pro	Leu	Pro	Val	Gln	Asp	Ile	Ser	Gln
	210					215					220				
Phe	Leu	Tyr	Ala	Thr	Leu	Ala	Leu	Val	Val	Ile	Ser	Asn	Leu	Ile	Cys
225					230					235					240
Tyr	Asn	Leu	Tyr	Ala	Lys	Leu	Leu	Arg	Lys	Tyr	Ser	Ser	Thr	Phe	Leu
			245					250						255	
Ser	Phe	Cys	Asn	Leu	Val	Met	Pro	Leu	Tyr	Ser	Gly	Phe	Tyr	Gly	Trp
			260					265					270		
Ile	Leu	Leu	Gly	Glu	Lys	Gly	Val	Ser	Leu	Gly	Leu	Val	Leu	Ala	Val
	275						280					285			
Ala	Phe	Met	Val	Ala	Gly	Cys	Arg	Leu	Ile	Tyr	His	Glu	Glu	Phe	Arg
	290					295					300				
Gln	Gly	Tyr	Ile	Val	Ser										
305					310										

<210> 810

<211> 481

<212> PRT

<213> Chlamydia pneumoniae

<400> 810

Leu	Lys	Lys	Leu	Pro	Ser	Trp	Ala	Leu	Lys	Ser	Leu	Lys	Arg	Met	Pro
1				5					10					15	
Gln	Ser	Ala	Glu	Pro	Ser	Leu	Ala	His	Ile	Lys	Pro	Ile	Ile	Phe	Lys
			20					25					30		
Gly	Ala	Cys	Ile	Ala	Met	Thr	Ser	Gly	Val	Ser	Gly	Ser	Ser	Ser	Gln
		35					40					45			
Asp	Pro	Thr	Leu	Ala	Ala	Gln	Leu	Ala	Gln	Ser	Ser	Gln	Lys	Ala	Gly
	50					55					60				
Asn	Ala	Gln	Ser	Gly	His	Asp	Thr	Lys	Asn	Val	Thr	Lys	Gln	Gly	Ala
65					70					75					80
Gln	Ala	Glu	Val	Ala	Ala	Gly	Gly	Phe	Glu	Asp	Leu	Ile	Gln	Asp	Ala
				85					90					95	

Ser	Ala	Gln	Ser	Thr	Gly	Lys	Lys	Glu	Ala	Thr	Ser	Ser	Thr	Thr	Lys
			100					105					110		
Ser	Ser	Lys	Gly	Glu	Lys	Ser	Glu	Lys	Ser	Gly	Lys	Ser	Lys	Ser	Ser
		115					120					125			
Thr	Ser	Val	Ala	Ser	Ala	Ser	Glu	Thr	Ala	Thr	Ala	Gln	Ala	Val	Gln
		130				135					140				
Gly	Pro	Lys	Gly	Leu	Arg	Gln	Asn	Asn	Tyr	Asp	Ser	Pro	Ser	Leu	Pro
145					150					155					160
Thr	Pro	Glu	Ala	Gln	Thr	Ile	Asn	Gly	Ile	Val	Leu	Lys	Lys	Gly	Met
				165					170					175	
Gly	Thr	Leu	Ala	Leu	Leu	Gly	Leu	Val	Met	Thr	Leu	Met	Ala	Asn	Ala
			180					185					190		
Ala	Gly	Glu	Ser	Trp	Lys	Ala	Ser	Phe	Gln	Ser	Gln	Asn	Gln	Ala	Ile
		195				200						205			
Arg	Ser	Gln	Val	Glu	Ser	Ala	Pro	Ala	Ile	Gly	Glu	Ala	Ile	Lys	Arg
		210				215					220				
Gln	Ala	Asn	His	Gln	Ala	Ser	Ala	Thr	Glu	Ala	Gln	Ala	Lys	Gln	Ser
225					230					235					240
Leu	Ile	Ser	Gly	Ile	Val	Asn	Ile	Val	Gly	Phe	Thr	Val	Ser	Val	Gly
				245					250					255	
Ala	Gly	Ile	Phe	Ser	Ala	Ala	Lys	Gly	Ala	Thr	Ser	Ala	Leu	Lys	Ser
			260					265					270		
Ala	Ser	Phe	Ala	Lys	Glu	Thr	Gly	Ala	Ser	Ala	Ala	Gly	Gly	Ala	Ala
		275					280					285			
Ser	Lys	Ala	Leu	Thr	Ser	Ala	Ser	Ser	Ser	Val	Gln	Gln	Thr	Met	Ala
		290				295					300				
Ser	Thr	Ala	Lys	Ala	Ala	Thr	Thr	Ala	Ala	Ser	Ser	Ala	Gly	Ser	Ala
305					310					315					320
Ala	Thr	Lys	Ala	Ala	Ala	Asn	Leu	Thr	Asp	Asp	Met	Ala	Ala	Ala	Ala
				325					330					335	
Ser	Lys	Met	Ala	Ser	Asp	Gly	Ala	Ser	Lys	Ala	Ser	Gly	Gly	Leu	Phe
			340				345						350		
Gly	Glu	Val	Leu	Asn	Lys	Pro	Asn	Trp	Ser	Glu	Lys	Val	Ser	Arg	Gly
		355					360					365			
Met	Asn	Val	Val	Lys	Thr	Gln	Gly	Ala	Arg	Val	Ala	Ser	Phe	Ala	Gly
		370				375					380				
Asn	Ala	Leu	Ser	Ser	Ser	Met	Gln	Met	Ser	Gln	Leu	Met	His	Gly	Leu
385					390					395					400
Thr	Ala	Ala	Val	Glu	Gly	Leu	Ser	Ala	Gly	Gln	Thr	Gly	Ile	Glu	Val
				405					410					415	
Ala	His	His	Gln	Arg	Leu	Ala	Gly	Gln	Ala	Glu	Ala	Gln	Ala	Glu	Val
			420					425					430		
Leu	Lys	Gln	Met	Ser	Ser	Val	Tyr	Gly	Gln	Gln	Ala	Gly	Gln	Ala	Gly
		435					440					445			
Gln	Leu	Gln	Glu	Gln	Ala	Met	Gln	Ser	Phe	Asn	Thr	Ala	Leu	Gln	Thr
		450				455					460				
Leu	Gln	Asn	Ile	Ala	Asp	Ser	Gln	Thr	Gln	Thr	Thr	Ser	Ala	Ile	Phe
465					470					475					480
Asn															

<210> 811

<211> 496

<212> .PRT

<213> Chlamydia pneumoniae

<400> 811

Asp	Thr	Asn	Met	Ser	Ile	Ser	Ser	Ser	Ser	Gly	Pro	Asp	Asn	Gln	Lys
1				5					10					15	
Asn	Ile	Met	Ser	Gln	Val	Leu	Thr	Ser	Thr	Pro	Gln	Gly	Val	Pro	Gln
			20					25					30		

Gln	Asp	Lys	Leu	Ser	Gly	Asn	Glu	Thr	Lys	Gln	Ile	Gln	Gln	Thr	Arg
	35					40					45				
Gln	Gly	Lys	Asn	Thr	Glu	Met	Glu	Ser	Asp	Ala	Thr	Ile	Ala	Gly	Ala
	50					55					60				
Ser	Gly	Lys	Asp	Lys	Thr	Ser	Ser	Thr	Thr	Lys	Thr	Glu	Thr	Ala	Pro
65					70					75					80
Gln	Gln	Gly	Val	Ala	Ala	Gly	Lys	Glu	Ser	Ser	Glu	Ser	Gln	Lys	Ala
				85					90					95	
Gly	Ala	Asp	Thr	Gly	Val	Ser	Gly	Ala	Ala	Ala	Thr	Thr	Ala	Ser	Asn
			100					105					110		
Thr	Ala	Thr	Lys	Ile	Ala	Met	Gln	Thr	Ser	Ile	Glu	Glu	Ala	Ser	Lys
			115				120						125		
Ser	Met	Glu	Ser	Thr	Leu	Glu	Ser	Leu	Gln	Ser	Leu	Ser	Ala	Ala	Gln
	130					135					140				
Met	Lys	Glu	Val	Glu	Ala	Val	Val	Val	Ala	Ala	Leu	Ser	Gly	Lys	Ser
145					150					155					160
Ser	Gly	Ser	Ala	Lys	Leu	Glu	Thr	Pro	Glu	Leu	Pro	Lys	Pro	Gly	Val
				165					170					175	
Thr	Pro	Arg	Ser	Glu	Val	Ile	Glu	Ile	Gly	Leu	Ala	Leu	Ala	Lys	Ala
			180				185						190		
Ile	Gln	Thr	Leu	Gly	Glu	Ala	Thr	Lys	Ser	Ala	Leu	Ser	Asn	Tyr	Ala
			195				200						205		
Ser	Thr	Gln	Ala	Gln	Ala	Asp	Gln	Thr	Asn	Lys	Leu	Gly	Leu	Glu	Lys
	210					215					220				
Gln	Ala	Ile	Lys	Ile	Asp	Lys	Glu	Arg	Glu	Glu	Tyr	Gln	Glu	Met	Lys
225					230					235					240
Ala	Ala	Glu	Gln	Lys	Ser	Lys	Asp	Leu	Glu	Gly	Thr	Met	Asp	Thr	Val
				245					250					255	
Asn	Thr	Val	Met	Ile	Ala	Val	Ser	Val	Ala	Ile	Thr	Val	Ile	Ser	Ile
			260					265					270		
Val	Ala	Ala	Ile	Phe	Thr	Cys	Gly	Ala	Gly	Leu	Ala	Gly	Leu	Ala	Ala
			275				280					285			
Gly	Ala	Ala	Val	Gly	Ala	Ala	Ala	Ala	Gly	Gly	Ala	Ala	Gly	Ala	Ala
	290					295					300				
Ala	Ala	Thr	Thr	Val	Ala	Thr	Gln	Ile	Thr	Val	Gln	Ala	Val	Val	Gln
305					310					315					320
Ala	Val	Lys	Gln	Ala	Val	Ile	Thr	Ala	Val	Arg	Gln	Ala	Ile	Thr	Ala
				325					330					335	
Ala	Ile	Lys	Ala	Ala	Val	Lys	Ser	Gly	Ile	Lys	Ala	Phe	Ile	Lys	Thr
			340					345					350		
Leu	Val	Lys	Ala	Ile	Ala	Lys	Ala	Ile	Ser	Lys	Gly	Ile	Ser	Lys	Val
		355					360					365			
Phe	Ala	Lys	Gly	Thr	Gln	Met	Ile	Ala	Lys	Asn	Phe	Pro	Lys	Leu	Ser
	370					375					380				
Lys	Val	Ile	Ser	Ser	Leu	Thr	Ser	Lys	Trp	Val	Thr	Val	Gly	Val	Gly
385					390					395					400
Val	Val	Val	Ala	Ala	Pro	Ala	Leu	Gly	Lys	Gly	Ile	Met	Gln	Met	Gln
				405					410					415	
Leu	Ser	Glu	Met	Gln	Gln	Asn	Val	Ala	Gln	Phe	Gln	Lys	Glu	Val	Gly
			420					425					430		
Lys	Leu	Gln	Ala	Ala	Ala	Asp	Met	Ile	Ser	Met	Phe	Thr	Gln	Phe	Trp
		435					440						445		
Gln	Gln	Ala	Ser	Lys	Ile	Ala	Ser	Lys	Gln	Thr	Gly	Glu	Ser	Asn	Glu
	450					455					460				
Met	Thr	Gln	Lys	Ala	Thr	Lys	Leu	Gly	Ala	Gln	Ile	Leu	Lys	Ala	Tyr
465					470					475					480
Ala	Ala	Ile	Ser	Gly	Ala	Ile	Ala	Gly	Ala	His	Lys	Thr	Asn	Asn	Phe
				485					490					495	

<210> 812  
 <211> 123  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 812  
 Gly Glu Ile Met Asn Lys Lys Pro Lys Lys Thr Lys Lys Ala Val Gln  
 1 5 10 15  
 Ser Lys Ala Ala Pro Val Lys Arg Val Pro Glu Glu Ser Gln Glu Ala  
 20 25 30  
 Ala Ile Gln Gln Leu Glu Leu Ala Val Ser Asp Leu Tyr Lys Glu Leu  
 35 40 45  
 Pro Leu Ala Gln Thr Phe Ala Ser Leu Thr Asp Lys Asn Gln Ile Asn  
 50 55 60  
 Ser Ile Ile Ala Ala Leu Ser Gly Thr Leu Glu Ser Leu His Leu Glu  
 65 70 75 80  
 Glu Leu Thr Gln Gly Leu Phe Pro Ser Ala Gln Glu Asp Ala Asn Phe  
 85 90 95  
 Ala Lys Glu Leu Ser Ser Val Val His Gly Leu Lys Asn Leu Thr Thr  
 100 105 110  
 Val Val Asn Lys Gln Met Val Lys Gly Ala Glu  
 115 120

<210> 813  
 <211> 242  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 813  
 Ile Gln Asn Asn Phe Ile Leu Gly Ile Arg Ser Met Ser Lys Pro Ser  
 1 5 10 15  
 Pro Arg Asn Ala Asn Gln Pro Gln Lys Pro Ser Ala Ser Phe Asn Lys  
 20 25 30  
 Lys Thr Arg Ser Arg Leu Ala Glu Leu Ala Ala Gln Lys Lys Ala Lys  
 35 40 45  
 Ala Asp Asp Leu Glu Gln Val His Pro Val Pro Thr Glu Glu Ile  
 50 55 60  
 Lys Lys Ala Leu Gly Asn Ile Phe Glu Gly Leu Ser Asn Gly Leu Asp  
 65 70 75 80  
 Leu Gln Gln Ile Leu Gly Leu Ser Asp Tyr Leu Leu Glu Glu Ile Tyr  
 85 90 95  
 Thr Val Ala Tyr Thr Phe Tyr Ser Gln Gly Lys Tyr Asn Glu Ala Val  
 100 105 110  
 Gly Leu Phe Gln Leu Leu Ala Ala Gln Pro Gln Asn Tyr Lys Tyr  
 115 120 125  
 Met Leu Gly Leu Ser Ser Cys Tyr His Gln Leu His Leu Tyr Asn Glu  
 130 135 140  
 Ala Ala Phe Gly Phe Phe Leu Ala Phe Asp Ala Gln Pro Asp Asn Pro  
 145 150 155 160  
 Ile Pro Pro Tyr Tyr Ile Ala Asp Ser Leu Leu Lys Leu Gln Gln Pro  
 165 170 175  
 Glu Glu Ser Asn Asn Phe Leu Asp Val Thr Met Asp Ile Cys Gly Asn  
 180 185 190  
 Asn Pro Glu Phe Lys Ile Leu Lys Glu Arg Cys Gln Ile Met Lys Gln  
 195 200 205  
 Ser Ile Glu Lys Gln Met Ala Gly Glu Thr Lys Lys Ala Pro Thr Lys  
 210 215 220  
 Lys Pro Ala Gly Lys Ser Lys Thr Thr Thr Asn Lys Lys Ser Gly Lys  
 225 230 235 240  
 Lys Arg

<210> 814  
 <211> 594  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 814  
 Gly Ile Leu Ile Cys Trp Leu Gly Asn Leu Thr Lys Ala Pro Met Ser  
 1 5 10 15  
 Thr Arg Arg Pro Ile Gln Leu Leu Asp Pro Leu Thr Ile Asn Gln Ile  
 20 25 30  
 Ala Ala Gly Glu Val Ile Glu Asn Ser Val Ser Val Val Lys Glu Leu  
 35 40 45  
 Ile Glu Asn Ser Leu Asp Ala Gly Ala Asp Glu Ile Glu Ile Glu Thr  
 50 55 60  
 Leu Gly Gly Gly Gln Gly Ala Ile Ile Ile Arg Asp Asn Gly Cys Gly  
 65 70 75 80  
 Phe Arg Ala Glu Asp Ile Pro Ile Ala Leu Gln Arg His Ala Thr Ser  
 85 90 95  
 Lys Ile Arg Glu Phe Ser Asp Ile Phe Ser Leu Asn Ser Phe Gly Phe  
 100 105 110  
 Arg Gly Glu Ala Leu Pro Ser Ile Ala Ser Ile Ser Lys Met Glu Ile  
 115 120 125  
 Gln Ser Ser Ile Glu Gly Asp Glu Gly Val Arg Thr Val Ile His Gly  
 130 135 140  
 Gly Asp Ile Val Ser Cys Glu Pro Cys Ala Arg Gln Leu Gly Thr Thr  
 145 150 155 160  
 Val Ile Val Asn Ser Leu Phe Tyr Asn Val Pro Val Arg Arg Gly Phe  
 165 170 175  
 Gln Lys Ser Met Gln Ser Asp Arg Leu Gly Ile Arg Lys Leu Ile Glu  
 180 185 190  
 Asn Arg Ile Leu Ser Thr Ala Asn Ile Gly Trp Ser Trp Ile Ser Glu  
 195 200 205  
 Gly His His Glu Ile Gln Ile Ala Lys Gln Gln Gly Phe Gln Glu Arg  
 210 215 220  
 Val Ala Tyr Val Met Gly Asp His Phe Met Gln Asp Ala Leu Thr Ile  
 225 230 235 240  
 Asp Lys Glu Ala Asn Gly Val Arg Ile Val Gly Val Leu Gly Ser Pro  
 245 250 255  
 Ser Phe His Arg Pro Thr Arg Gln Gly Gln Lys Ile Phe Ile Asn Asp  
 260 265 270  
 Arg Pro Ile Glu Ser Leu Phe Ile Ser Lys Lys Val Gly Asp Ala Tyr  
 275 280 285  
 Ala Leu Leu Leu Pro Leu His Arg Tyr Pro Val Phe Val Leu Lys Leu  
 290 295 300  
 Tyr Leu Pro Ser Ser Trp Cys Asp Phe Asn Val His Pro Gln Lys Ile  
 305 310 315 320  
 Glu Ala Arg Ile Leu Lys Glu Glu Leu Val Gly Asp Cys Ile Lys Glu  
 325 330 335  
 Ala Ile Val Glu Thr Leu Ala Cys Pro Pro Gly Ile Leu Cys Arg Thr  
 340 345 350  
 His Gln Glu Ile Glu Glu Ser Asp Ser Val Pro Leu Pro Met Phe Arg  
 355 360 365  
 Met Leu Glu Thr Ser Asp Val Gln Glu Glu Glu Ser Val Glu Phe Asp  
 370 375 380  
 Gln Asn Leu Phe Ala Tyr Ser Ser Glu Asp Val Ser Leu Glu Lys Gln  
 385 390 395 400  
 Glu Tyr Thr Ser Arg Gly Pro Lys Ser Gln Met Asp Trp Ile Tyr Ser  
 405 410 415  
 Ser Asp Val Arg Phe Leu Thr Ser Leu Gly Arg Val Val Leu Ala Glu  
 420 425 430





Gln	Lys	Arg	Ala	Met	Ala	Leu	Cys	Lys	Glu	Gly	Val	Leu	Trp	Gly	Asp
			260					265					270		
Ile	Asp	Ala	Glu	Ala	Val	Arg	Val	Leu	Arg	Glu	His	His	Leu	Asp	Thr
		275					280					285			
Tyr	Phe	Ile	His	Gly	Ile	Gly	His	Gly	Val	Gly	Arg	His	Ile	His	Glu
	290					295					300				
Tyr	Pro	Cys	Ser	Pro	Arg	Gly	Ser	Gln	Val	Lys	Leu	Glu	Ser	Gly	Met
305					310					315					320
Thr	Ile	Thr	Val	Glu	Pro	Gly	Val	Tyr	Phe	Pro	Gly	Ile	Gly	Gly	Ile
			325						330					335	
Arg	Ile	Glu	Asp	Thr	Leu	Cys	Ile	Asp	Lys	Asn	Lys	Asn	Phe	Ser	Leu
		340						345					350		
Thr	Ala	Arg	Pro	Val	Ile	Ser	Glu	Leu	Val	Cys	Leu				
		355					360								

<210> 816

<211> 454

<212> PRT

<213> Chlamydia pneumoniae

<400> 816

Phe	Phe	Leu	Phe	Phe	Lys	Leu	Ser	Tyr	Asn	Phe	Ile	Phe	Asn	Leu	Pro
1				5					10					15	
Leu	Thr	Met	Tyr	Gln	Leu	Leu	Ser	Ile	Gly	Tyr	Ser	Phe	Val	Ser	Phe
		20						25					30		
Ile	Ala	Leu	Leu	Trp	Met	Leu	Cys	Tyr	Ser	Pro	Asn	Tyr	Val	Thr	Asp
	35					40						45			
Leu	Tyr	Arg	Ile	Ser	Leu	Ser	Ala	Glu	Glu	Ser	Leu	Gly	Gly	Ile	Arg
	50					55					60				
Ala	Phe	Pro	Gln	Ala	Glu	Ser	Leu	Leu	Gly	Gly	Ala	Cys	Ala	Leu	Asn
65					70					75					80
Phe	Pro	Asp	Leu	Glu	Glu	Arg	Leu	Pro	Asp	Leu	Arg	Lys	Glu	Leu	Leu
			85						90					95	
Phe	Leu	Gly	Ser	Asn	Asp	Arg	Pro	Asp	Ala	Cys	Gly	Gly	Lys	Phe	Ser
			100					105					110		
Leu	Gln	Leu	Ala	Ser	Ser	Lys	Glu	Cys	Tyr	Ile	Ala	Ala	Leu	Lys	Glu
	115						120					125			
Arg	Val	Tyr	Leu	Asn	Val	Thr	Asn	Ser	Ser	Arg	Gly	Pro	Val	Tyr	Ser
	130					135					140				
Phe	Ser	Pro	Lys	Gly	Val	Pro	Thr	Glu	Leu	Trp	Ile	Glu	Cys	Phe	Ser
145					150					155					160
Val	Ser	Val	Asp	Gly	Arg	Val	Glu	Val	Lys	Val	Arg	Leu	Gln	Gly	Leu
				165					170					175	
His	Lys	Glu	Leu	Ile	Ser	Lys	Pro	Arg	Asp	Cys	Glu	Thr	Leu	Phe	Leu
			180					185					190		
Asn	Pro	Pro	Ala	Asn	Lys	Leu	Asp	Cys	Trp	Glu	Ile	Ala	Gly	Phe	Arg
		195					200					205			
Val	Asp	Ala	Ser	Phe	Pro	Val	Lys	Gln	Lys	Ile	Arg	Arg	Ile	Gly	Val
	210					215					220				
Asp	Lys	Phe	Leu	Leu	Met	His	Gly	Gly	Ala	Glu	Tyr	Ala	Asp	Lys	Ala
225					230					235					240
Thr	Lys	Glu	Arg	Val	Asp	Phe	Val	Ser	Ser	Asp	Glu	Glu	Asn	Tyr	Ser
				245					250					255	
Arg	Tyr	Leu	Ala	Val	Gly	Asp	Val	Leu	Leu	Trp	Asp	Gly	Asn	Cys	Trp
			260					265					270		
Gln	Thr	Cys	Gly	Glu	Phe	Gln	Gly	Ala	Ser	Ser	Arg	Ala	Pro	Leu	Phe
		275					280					285			
Glu	Val	Lys	Arg	Ile	Asp	Asp	Lys	Val	Met	Ile	Ala	Asp	Leu	Trp	Asn
	290					295					300				
Val	Gly	Gly	Thr	Gln	Arg	Gln	Thr	Ile	Ser	Leu	Val	Lys	Gly	Val	Pro
305					310					315					320



Thr	Lys	Ile	Asp	Pro	Gly	Glu	Met	Ile	Ser	Ile	Leu	Asn	Ala	Ala	Phe
290						295					300				
Arg	Glu	Asp	Leu	Thr	Lys	Asp	Val	Ser	Glu	Glu	Ser	Leu	Gly	Leu	Arg
305					310					315					320
Val	Val	Pro	Leu	Gln	Tyr	Gln	Gly	Arg	Ser	Leu	Phe	Leu	Ser	Gly	Thr
				325					330					335	
Ala	Ala	Leu	Val	Gln	Gln	Ala	Leu	Thr	Leu	Ile	Arg	Glu	Leu	Glu	Glu
			340					345					350		
Gly	Ile	Glu	Asn	Pro	Thr	Asp	Lys	Thr	Val	Phe	Trp	Tyr	Asn	Val	Lys
		355					360					365			
His	Ser	Asp	Pro	Gln	Glu	Leu	Ala	Ala	Leu	Leu	Ser	Gln	Val	His	Asp
		370				375					380				
Val	Phe	Ser	Gly	Glu	Asn	Lys	Ala	Ser	Val	Gly	Ala	Ala	Asp	Gly	Cys
385					390					395					400
Gly	Ser	Gln	Leu	Asn	Ala	Ser	Ile	Gln	Ile	Asp	Thr	Thr	Val	Ser	Ser
				405					410					415	
Ser	Ala	Lys	Asp	Gly	Ser	Val	Lys	Tyr	Gly	Asn	Phe	Ile	Ala	Asp	Ser
			420					425					430		
Lys	Thr	Gly	Thr	Leu	Ile	Met	Val	Val	Glu	Lys	Glu	Val	Leu	Pro	Arg
		435					440					445			
Ile	Gln	Met	Leu	Leu	Lys	Lys	Leu	Asp	Val	Pro	Lys	Lys	Met	Val	Arg
		450				455					460				
Ile	Glu	Val	Leu	Leu	Phe	Glu	Arg	Lys	Leu	Ala	His	Glu	Gln	Lys	Ser
465					470					475					480
Gly	Leu	Asn	Leu	Leu	Arg	Leu	Gly	Glu	Glu	Val	Cys	Lys	Lys	Gly	Cys
				485					490					495	
Ser	Pro	Ser	Val	Ser	Trp	Ala	Gly	Gly	Thr	Gly	Ile	Leu	Glu	Phe	Leu
			500					505					510		
Phe	Lys	Gly	Ser	Thr	Gly	Ser	Ser	Ile	Val	Pro	Gly	Tyr	Asp	Leu	Ala
		515					520					525			
Tyr	Gln	Phe	Leu	Met	Ala	Gln	Glu	Asp	Val	Arg	Ile	Asn	Ala	Ser	Pro
		530				535					540				
Ser	Val	Val	Thr	Met	Asn	Gln	Thr	Pro	Ala	Arg	Ile	Ala	Val	Val	Asp
545					550					555					560
Glu	Met	Ser	Ile	Ala	Val	Ser	Ser	Asp	Lys	Asp	Lys	Ala	Gln	Tyr	Asn
				565					570					575	
Arg	Ala	Gln	Tyr	Gly	Ile	Met	Ile	Lys	Met	Leu	Pro	Val	Ile	Asn	Val
			580					585					590		
Gly	Glu	Glu	Asp	Gly	Lys	Ser	Tyr	Ile	Thr	Leu	Glu	Thr	Asp	Ile	Thr
		595					600					605			
Phe	Asp	Thr	Thr	Gly	Lys	Asn	His	Asp	Asp	Arg	Pro	Asp	Val	Thr	Arg
		610				615					620				
Arg	Asn	Ile	Thr	Asn	Lys	Val	Arg	Ile	Ala	Asp	Gly	Glu	Thr	Val	Ile
625					630					635					640
Ile	Gly	Gly	Leu	Arg	Cys	Lys	Gln	Met	Ser	Asp	Ser	His	Asp	Gly	Ile
				645					650					655	
Pro	Phe	Leu	Gly	Asp	Ile	Pro	Gly	Ile	Gly	Lys	Leu	Phe	Gly	Met	Ser
			660					665					670		
Ser	Thr	Ser	Asp	Ser	Leu	Thr	Glu	Met	Phe	Val	Phe	Ile	Thr	Pro	Lys
		675					680					685			
Ile	Leu	Glu	Asn	Pro	Val	Glu	Gln	Gln	Glu	Arg	Lys	Glu	Glu	Ala	Leu
		690				695					700				
Leu	Ser	Ser	Arg	Pro	Gly	Glu	Arg	Glu	Glu	Tyr	Tyr	Gln	Ala	Leu	Ala
705					710					715					720
Ala	Ser	Glu	Ala	Ala	Ala	Arg	Ala	Ala	His	Lys	Lys	Leu	Glu	Met	Phe
				725					730					735	
Pro	Ala	Ser	Gly	Val	Ser	Leu	Ser	Gln	Val	Glu	Arg	Gln	Glu	Tyr	Asp
			740					745					750		
Gly	Cys														

<210> 818  
 <211> 501  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 818  
 Arg Gly Lys Asn Thr Met Ala Ala Ser Ile Leu Ser Gln Glu Leu Leu  
 1 5 10 15  
 Asp Ile Leu Pro Tyr Thr Phe Leu Lys Lys His Cys Leu Leu Pro Ile  
 20 25 30  
 Glu Glu Ser Ser Glu Ala Ile Thr Ile Ala His Ala Thr Ala Thr Ser  
 35 40 45  
 Val Ile Ala Gln Asp Glu Val Lys Leu Leu Ile Lys Lys Pro Val Arg  
 50 55 60  
 Phe Val Leu Lys Glu Glu Ser Glu Ile Leu Gln Arg Leu Gln Gln Leu  
 65 70 75 80  
 Tyr Ser Asn Arg Glu Gly Asn Val Ser Asp Met Leu Leu Thr Met Lys  
 85 90 95  
 Glu Glu Asp Gly Thr Thr Ile Ser Glu Glu Glu Asp Leu Leu Glu Thr  
 100 105 110  
 Thr Asp Thr Ile Pro Val Val Arg Leu Leu Asn Trp Ile Leu Lys Glu  
 115 120 125  
 Ala Ile Glu Glu Arg Ala Ser Asp Ile His Phe Glu Pro Cys Glu Asp  
 130 135 140  
 Ser Met Arg Ile Arg Tyr Arg Ile Asp Gly Val Leu His Asp Arg His  
 145 150 155 160  
 Ser Pro Pro Ser His Leu Arg Ser Ala Leu Thr Thr Arg Leu Lys Val  
 165 170 175  
 Leu Ala Lys Met Asp Ile Ala Glu His Arg Leu Pro Gln Asp Gly Arg  
 180 185 190  
 Ile Lys Ile His Ile Gly Gly Gln Glu Val Asp Met Arg Val Ser Thr  
 195 200 205  
 Val Pro Val Ile Tyr Gly Glu Arg Val Val Leu Arg Ile Leu Asp Lys  
 210 215 220  
 Arg Asn Val Ile Leu Asp Ile Ala Gly Leu His Met Pro Lys Gly Thr  
 225 230 235 240  
 Glu Ile Leu Phe Lys Asp Thr Ile Thr Ala Pro Glu Gly Ile Leu Leu  
 245 250 255  
 Val Thr Gly Pro Thr Gly Ser Gly Lys Thr Thr Thr Leu Tyr Ser Val  
 260 265 270  
 Leu Gln Glu Leu Lys Gly Pro Leu Thr Asn Ile Met Thr Ile Glu Asp  
 275 280 285  
 Pro Pro Glu Tyr Lys Leu Pro Gly Ile Ala Gln Ile Ala Val Lys Pro  
 290 295 300  
 Lys Ile Gly Leu Thr Phe Ala Arg Gly Leu Arg His Leu Leu Arg Gln  
 305 310 315 320  
 Asp Pro Asp Ile Leu Met Val Gly Glu Ile Arg Asp Gln Glu Thr Ala  
 325 330 335  
 Glu Ile Ala Ile Gln Ala Ala Leu Thr Gly His Leu Val Val Ser Thr  
 340 345 350  
 Leu His Thr Asn Asp Ala Ile Ser Ala Ile Pro Arg Leu Leu Asp Met  
 355 360 365  
 Gly Ile Glu Ser Tyr Leu Leu Ser Ala Thr Leu Val Gly Val Val Ala  
 370 375 380  
 Gln Arg Leu Val Arg Thr Ile Cys Pro Tyr Cys Lys Val Ala Tyr Thr  
 385 390 395 400  
 Pro Glu Asn Gln Glu Lys Ser Phe Leu Ala Ser Leu Gly Lys Asp Thr  
 405 410 415  
 Glu Met Pro Leu Tyr Arg Gly Gln Gly Cys Val His Cys Phe Arg Ser  
 420 425 430

Gly Tyr Lys Gly Arg Gln Gly Ile Tyr Glu Phe Leu Arg Pro Asn Thr  
           435                                  440                                  445  
 Leu Phe Arg Ser Glu Val Ala Ser Asn Arg Pro Tyr His Ile Leu Arg  
           450                                  455                                  460  
 Glu Thr Ala Glu Gln Asn Gly Phe Leu Pro Ile Leu Glu His Gly Ile  
 465                                  470                                  475                                  480  
 Ala Leu Ala Val Ser Gly Glu Thr Thr Leu Ala Glu Val Leu Arg Val  
                                   485                                  490                                  495  
 Thr Lys Arg Cys Asp  
                                   500

<210> 819

<211> 394

<212> PRT

<213> Chlamydia pneumoniae

<400> 819

Gly Gly Arg Met Pro Arg Tyr Arg Tyr Thr Tyr Leu Asp Pro Lys Glu  
 1                                  5                                  10                                  15  
 Arg Arg Lys Arg Gly Tyr Leu Glu Ala Leu His Ile Gln Glu Ala Arg  
                                   20                                  25                                  30  
 Glu Lys Leu Ala Gln Glu Asn Ile Gln Val Leu Asp Ile Arg Glu Val  
                                   35                                  40                                  45  
 Ala Leu Arg Arg Met Ser Ile Lys Ser Thr Glu Leu Ile Val Phe Thr  
                                   50                                  55                                  60  
 Lys Gln Leu Leu Leu Leu Leu Arg Ser Gly Leu Pro Leu Tyr Glu Ser  
 65                                  70                                  75                                  80  
 Leu Val Ser Leu Arg Asp Gln Tyr His Glu Gln Lys Met Gly Leu Leu  
                                   85                                  90                                  95  
 Leu Thr Ser Phe Met Glu Thr Leu Arg Ser Gly Gly Ser Leu Ser Gln  
                                   100                                  105                                  110  
 Ala Met Ala Ala His Pro Asn Ile Phe Asp His Phe Tyr Cys Ser Gly  
                                   115                                  120                                  125  
 Val Ala Ala Gly Glu Ser Val Gly Asn Leu Glu Gly Cys Leu Gln Asn  
                                   130                                  135                                  140  
 Ile Ile Val Val Leu Glu Arg Ala Gln Ile Thr Lys Lys Met Val  
 145                                  150                                  155                                  160  
 Gly Ala Leu Ser Tyr Pro Cys Val Leu Leu Val Phe Ser Phe Ala Val  
                                   165                                  170                                  175  
 Met Leu Phe Phe Leu Leu Gly Val Ile Pro Ser Leu Lys Glu Thr Phe  
                                   180                                  185                                  190  
 Glu Asn Met Glu Val Lys Gly Leu Thr Lys Ile Val Phe Gly Val Ser  
                                   195                                  200                                  205  
 Asp Cys Leu Ser Ala Tyr Arg Tyr Leu Phe Leu Gly Phe Ala Ser Ala  
                                   210                                  215                                  220  
 Leu Ile Thr Val Gly Ile Leu Met Arg His Arg Ile Pro Trp Lys Lys  
 225                                  230                                  235                                  240  
 Ile Leu Glu Lys Leu Leu Phe Ala Leu Pro Gly Thr Lys Lys Phe Val  
                                   245                                  250                                  255  
 Val Lys Val Ala Val Asn Arg Phe Cys Ser Val Ala Ser Ala Ile Leu  
                                   260                                  265                                  270  
 Lys Gly Gly Gly Thr Leu Ile Glu Gly Leu Asp Leu Gly Cys Asp Ala  
                                   275                                  280                                  285  
 Ile Pro Tyr Asp Arg Leu Lys Thr Asp Met Arg Asp Ile Val Gln Ala  
                                   290                                  295                                  300  
 Val Ile Gly Gly Gly Ser Leu Ser Gln Glu Leu Ala Gln Arg Ser Trp  
 305                                  310                                  315                                  320  
 Val Pro Lys Leu Ala Ile Gly Met Ile Ala Leu Gly Glu Glu Ser Gly  
                                   325                                  330                                  335  
 Asp Leu Ala Asp Val Leu Gly Tyr Val Ala His Ile Tyr Asn Glu Asp  
                                   340                                  345                                  350

Thr Gln Lys Thr Leu Ala Ser Ile Thr Ser Trp Cys Gln Pro Val Ile  
 355 360 365  
 Leu Ile Phe Leu Gly Gly Leu Ile Gly Val Ile Met Leu Ala Ile Leu  
 370 375 380  
 Ile Pro Leu Thr Ser Asn Ile Gln Thr Leu  
 385 390

<210> 820  
 <211> 175  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 820  
 Gly Tyr Thr Lys Asn Val Gly Phe Asp Asn Val Val Val Ser Thr Arg  
 1 5 10 15  
 Asp Ser Asp Phe Ser Trp Trp Pro Asp Arg Cys Asp His Val Gly Asn  
 20 25 30  
 Ile Asp Pro Thr His Lys Gln Tyr Pro Asn Ile Ile Lys Cys Val Leu  
 35 40 45  
 Arg Gly Val Gly Met Lys Arg Gln Lys Arg Lys Gln Ser Ile Thr Leu  
 50 55 60  
 Ile Glu Met Met Val Val Ile Thr Leu Ile Gly Ile Ile Gly Gly Ala  
 65 70 75 80  
 Leu Ala Phe Asn Met Arg Gly Ser Ile His Lys Gly Lys Val Phe Gln  
 85 90 95  
 Ser Glu Gln Asn Cys Ala Lys Val Tyr Asp Ile Leu Met Met Glu Tyr  
 100 105 110  
 Ala Thr Gly Gly Ser Ser Leu Lys Glu Ile Ile Ala His Lys Glu Thr  
 115 120 125  
 Val Val Glu Glu Ala Ser Trp Cys Lys Glu Gly Arg Lys Leu Leu Lys  
 130 135 140  
 Asp Ala Trp Gly Glu Asp Leu Ile Val Gln Leu Asn Asp Lys Gly Asp  
 145 150 155 160  
 Asp Leu Val Ile Phe Ser Lys Arg Val Gln Ser Ser Asn Lys Lys  
 165 170 175

<210> 821  
 <211> 54  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 821  
 Ala Ser Leu Tyr Gly Tyr Cys Leu Phe Leu Ile Trp Glu Lys Phe His  
 1 5 10 15  
 Asn Asn Ile Gly Lys Ala Asn Phe His Leu Lys Ile Ile Thr Thr Asp  
 20 25 30  
 Phe Leu Thr Asp Ile Tyr Ile Val Thr Ile Arg Asp Pro Ile Ala Tyr  
 35 40 45  
 Pro Leu Thr Gly Ile Cys  
 50

<210> 822  
 <211> 206  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 822  
 Asp Glu Ser Leu Pro Cys Arg Cys Cys Cys Gly Thr Phe Pro Arg Ser  
 1 5 10 15  
 Glu Thr Ser Ser Ile Arg Thr Glu Met Pro Met Cys Asn Ser Ile Ala  
 20 25 30

Met	Lys	Lys	Gln	Lys	Arg	Gly	Phe	Val	Leu	Met	Glu	Leu	Leu	Met	Ser
	35					40					45				
Phe	Thr	Leu	Ile	Ala	Leu	Leu	Leu	Gly	Thr	Leu	Gly	Phe	Trp	Tyr	Arg
	50					55					60				
Lys	Ile	Tyr	Thr	Val	Gln	Lys	Gln	Lys	Glu	Arg	Ile	Tyr	Asn	Phe	Tyr
65					70					75					80
Ile	Glu	Glu	Ser	Arg	Ala	Tyr	Lys	Gln	Leu	Arg	Thr	Leu	Phe	Ser	Met
			85						90					95	
Ser	Leu	Ser	Ser	Ser	Tyr	Glu	Glu	Pro	Gly	Ser	Leu	Phe	Ser	Leu	Ile
			100					105						110	
Phe	Asp	Arg	Gly	Val	Tyr	Arg	Asp	Pro	Lys	Leu	Ala	Gly	Ala	Val	Arg
	115						120					125			
Ala	Ser	Leu	His	His	Asp	Thr	Lys	Asp	Gln	Arg	Leu	Glu	Leu	Arg	Ile
	130					135					140				
Cys	Asn	Ile	Lys	Asp	Gln	Ser	Tyr	Phe	Glu	Thr	Gln	Arg	Leu	Leu	Ser
145					150					155					160
His	Val	Thr	His	Val	Val	Leu	Ser	Phe	Gln	Arg	Asn	Pro	Asp	Pro	Glu
				165					170					175	
Lys	Leu	Pro	Glu	Thr	Ile	Ala	Leu	Thr	Ile	Thr	Arg	Glu	Pro	Lys	Ala
			180					185				190			
Tyr	Pro	Pro	Arg	Thr	Leu	Thr	Tyr	Gln	Phe	Ala	Val	Gly	Lys		
	195						200					205			

<210> 823

<211> 344

<212> PRT

<213> Chlamydia pneumoniae

<400> 823

His	Thr	Asn	Leu	Arg	Leu	Gly	Asn	Lys	Pro	Met	Gln	Pro	Phe	Ile	Phe
1				5					10					15	
Thr	Leu	Leu	Cys	Leu	Thr	Ser	Leu	Val	Ser	Leu	Val	Ala	Phe	Asp	Ala
			20					25					30		
Ala	Asn	Ala	Arg	Lys	Arg	Cys	Ala	Cys	Ala	Gln	Thr	Ile	Glu	Arg	Gly
	35						40					45			
Glu	Asn	Phe	Phe	Ser	Ile	Lys	Arg	Ser	Ala	Cys	Ala	Glu	Ile	Glu	Tyr
	50					55					60				
Gln	Glu	Lys	Ser	Arg	His	Ala	Ser	Ala	Ile	Glu	Arg	Ile	Ser	Lys	Asp
65					70					75					80
Lys	Gly	Lys	Val	Thr	Pro	Lys	Gln	Ile	Ala	Lys	Val	Ala	Thr	Lys	Lys
				85					90					95	
Lys	Gln	Arg	Tyr	Arg	Leu	Leu	Gln	Val	Pro	Phe	Ser	Arg	Pro	Pro	Asn
			100					105					110		
Asn	Ser	Arg	Tyr	Asn	Leu	Tyr	Ala	Leu	Leu	Ser	Glu	Pro	Pro	Glu	Cys
			115				120					125			
Tyr	Ser	Asp	Thr	Ala	Ser	Trp	Tyr	Ala	Ile	Phe	Ile	Arg	Leu	Leu	Arg
	130					135					140				
Arg	Ala	Tyr	Val	Asp	Thr	Gly	Asn	Val	Pro	Pro	Gly	Ser	Glu	Tyr	Ala
145					150					155					160
Ile	Ala	Asn	Ala	Leu	Ile	Ser	Asn	Lys	Gln	Glu	Ile	Leu	Glu	Arg	Gly
				165					170					175	
Ala	Gln	Leu	Gly	Pro	Asp	Val	Ile	Glu	Thr	Leu	Thr	Leu	Pro	Glu	Glu
			180					185					190		
Gln	Ala	Glu	Ile	Phe	Tyr	Lys	Met	Leu	Lys	Gly	Ser	Ser	Asn	Ser	Gln
	195						200					205			
Ser	Leu	Leu	Asn	Phe	Leu	His	Tyr	Glu	Glu	Lys	Ser	Leu	Gly	His	Cys
	210					215					220				
Lys	Leu	Asn	Leu	Ile	Phe	Met	Asp	Pro	Leu	Leu	Leu	Glu	Ala	Val	Leu
225					230					235					240
Asp	His	Pro	Asp	Ala	Tyr	Arg	Glu	Thr	Ser	Leu	Leu	Arg	Asp	Gly	Ile
				245					250					255	





Ile Ser Leu Ser Trp Leu Ala Ile Ile Phe Pro Lys Val Leu Ala Asp  
 85 90 95  
 Thr Gln Ile Thr Asn Tyr Met Asp Asn Asn Leu Phe Tyr Val Leu Leu  
 100 105 110  
 Val Lys Glu Met Ile Ile Gly Ile Val Ile Gly Phe Val Leu Ala Phe  
 115 120 125  
 Pro Phe Tyr Ala Ala Gln Ser Ala Gly Ser Phe Ile Thr Asn Gln Gln  
 130 135 140  
 Gly Ile Gln Gly Leu Glu Gly Ala Thr Ser Leu Ile Ser Ile Glu Gln  
 145 150 155 160  
 Thr Ser Pro His Gly Ile Leu Tyr His Tyr Phe Val Thr Ile Ile Phe  
 165 170 175  
 Trp Leu Val Gly Gly His Arg Ile Val Ile Ser Leu Leu Leu Gln Thr  
 180 185 190  
 Leu Glu Val Ile Pro Ile His Ser Phe Phe Pro Ala Glu Met Met Ser  
 195 200 205  
 Leu Ser Ala Pro Ile Trp Ile Thr Met Ile Lys Met Cys Gln Leu Cys  
 210 215 220  
 Leu Val Met Thr Ile Gln Leu Ser Ala Pro Ala Ala Leu Ala Met Leu  
 225 230 235 240  
 Met Ser Asp Leu Phe Leu Gly Ile Ile Asn Arg Met Ala Pro Gln Val  
 245 250 255  
 Gln Val Ile Tyr Leu Leu Ser Ala Leu Lys Ala Phe Met Gly Leu Leu  
 260 265 270  
 Phe Leu Thr Leu Ala Trp Trp Phe Ile Ile Lys Gln Ile Asp Tyr Phe  
 275 280 285  
 Thr Leu Ala Trp Phe Lys Glu Val Pro Ile Met Leu Leu Gly Ser Asn  
 290 295 300  
 Pro Gln Val Leu  
 305

<210> 826  
 <211> 100  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 826  
 Ile Arg Thr Arg Ala Val Leu Ala Phe Phe Ala Thr Ser Phe Lys Ser  
 1 5 10 15  
 Val Leu Phe Glu Tyr Ser Tyr Gln Ser Leu Leu Leu Ile Leu Ile Val  
 20 25 30  
 Ser Ala Pro Pro Ile Ile Leu Ala Ser Ile Val Gly Ile Met Val Ala  
 35 40 45  
 Ile Phe Gln Ala Ala Thr Gln Ile Gln Glu Gln Thr Phe Ala Phe Ala  
 50 55 60  
 Val Lys Leu Val Val Ile Phe Gly Thr Leu Met Ile Ser Gly Gly Trp  
 65 70 75 80  
 Leu Ser Asn Met Ile Leu Arg Phe Ala Gly Gln Ile Phe Gln Asn Phe  
 85 90 95  
 Tyr Lys Trp Lys  
 100

<210> 827  
 <211> 314  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 827  
 Glu Arg Ile Lys Val Phe Thr Ile Met Arg Ser Ile Phe Arg Phe Ser  
 1 5 10 15

Leu Cys Phe Phe Thr Leu Ser Val Ser Cys Cys Phe Ala Asp Ala Ser  
 20 25 30  
 Leu Tyr Glu Asn Ser Cys Pro Ser Arg Cys Gln Pro Thr Pro Pro  
 35 40 45  
 Ser Asn Ser Asn Pro Leu Asn Val Val Gln Gln Pro Val Ala Ala Ser  
 50 55 60  
 Ser Val Pro Ser Tyr Met Pro Pro Leu Asn Ala Asp Asp Val Leu Pro  
 65 70 75 80  
 Arg Asp His Leu Ser Asp Gly Ser Phe Ser Asp Thr Tyr Pro Asp Ile  
 85 90 95  
 Thr Thr Gln Ala Ile Ile Leu Ile Phe Leu Ala Leu Ser Pro Phe Leu  
 100 105 110  
 Val Met Leu Leu Thr Ser Tyr Leu Lys Ile Ile Ile Thr Leu Val Leu  
 115 120 125  
 Leu Arg Asn Ala Leu Gly Val Gln Gln Thr Pro Pro Ser Gln Val Leu  
 130 135 140  
 Asn Gly Ile Ala Leu Ile Leu Ser Ile Tyr Val Met Phe Pro Thr Gly  
 145 150 155 160  
 Val Ala Met Tyr Lys Asp Ala Arg Lys Glu Ile Glu Ala Asn Thr Ile  
 165 170 175  
 Pro Gln Ser Leu Phe Thr Ala Glu Gly Ala Glu Thr Val Phe Val Ala  
 180 185 190  
 Leu Asn Lys Ser Lys Glu Pro Leu Arg Ser Phe Leu Ile Arg Asn Thr  
 195 200 205  
 Pro Lys Ala Gln Ile Gln Ser Phe Tyr Lys Ile Ser Gln Lys Thr Phe  
 210 215 220  
 Pro Ser Glu Ile Arg Ala His Leu Thr Ala Ser Asp Phe Val Ile Ile  
 225 230 235 240  
 Ile Pro Ala Phe Ile Met Gly Gln Ile Lys Asn Ala Phe Glu Ile Gly  
 245 250 255  
 Val Leu Ile Tyr Leu Pro Phe Phe Val Ile Asp Leu Val Thr Ala Asn  
 260 265 270  
 Val Leu Val Ala Met Gln Met Met Met Leu Ser Pro Leu Ser Ile Ser  
 275 280 285  
 Leu Pro Leu Lys Leu Leu Leu Ile Val Met Val Asp Gly Trp Thr Leu  
 290 295 300  
 Leu Leu Gln Gly Leu Met Ile Ser Phe Lys  
 305 310

<210> 828  
 <211> 257  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 828  
 His Asp Asn Lys Arg Ser Gly Val Phe Ser Ser Glu Val Asn Gln Pro  
 1 5 10 15  
 Gln Arg Tyr Tyr Ala Ile Val Lys Met Lys Phe Phe Ser Leu Ile Phe  
 20 25 30  
 Lys Asp Asp Asp Val Ser Pro Asn Lys Lys Val Leu Ser Pro Glu Ala  
 35 40 45  
 Phe Ser Ala Phe Leu Asp Ala Lys Glu Leu Leu Glu Lys Thr Lys Ala  
 50 55 60  
 Asp Ser Glu Ala Tyr Val Ala Glu Thr Glu Gln Lys Cys Ala Gln Ile  
 65 70 75 80  
 Arg Gln Glu Ala Lys Asp Gln Gly Phe Lys Glu Gly Ser Glu Ser Trp  
 85 90 95  
 Ser Lys Gln Ile Ala Phe Leu Glu Glu Glu Thr Lys Asn Leu Arg Ile  
 100 105 110  
 Arg Val Arg Glu Ala Leu Val Pro Leu Ala Ile Ala Ser Val Arg Lys  
 115 120 125

Ile	Ile	Gly	Lys	Glu	Leu	Glu	Leu	His	Pro	Glu	Thr	Ile	Val	Ser	Ile
130						135					140				
Ile	Ser	Gln	Ala	Leu	Lys	Glu	Leu	Thr	Gln	Asn	Lys	His	Ile	Ile	Ile
145					150					155					160
Ser	Val	Asn	Pro	Lys	Asp	Leu	Pro	Leu	Val	Glu	Lys	Ser	Arg	Pro	Glu
				165					170						175
Leu	Lys	Asn	Ile	Val	Glu	Tyr	Ala	Asp	Ser	Leu	Ile	Leu	Thr	Ala	Lys
			180					185						190	
Pro	Asp	Val	Thr	Pro	Gly	Gly	Cys	Ile	Ile	Glu	Thr	Glu	Ala	Gly	Ile
		195					200					205			
Ile	Asn	Ala	Gln	Leu	Asp	Val	Gln	Leu	Asp	Ala	Leu	Glu	Lys	Ala	Phe
	210				215						220				
Ser	Thr	Ile	Leu	Lys	Ala	Lys	Asn	Pro	Val	Asp	Glu	Pro	Ser	Glu	Thr
225					230					235					240
Ser	Ser	Ser	Thr	Asp	Ser	Ser	Ser	Leu	Ser	Asn	Asp	Gln	Asp	Lys	Lys
				245					250					255	

Glu

<210> 829  
 <211> 280  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 829

Gly	Cys	Leu	Val	Thr	Ala	Asn	Thr	Phe	Gly	Thr	Leu	Asp	Ile	Leu	Met
1				5					10					15	
Lys	His	Ser	Lys	Glu	Asp	Asp	Leu	Ser	Arg	Phe	Leu	Pro	Lys	Asn	Leu
			20					25					30		
Leu	Val	Glu	Ser	Pro	His	Pro	Glu	Glu	Ile	Pro	Leu	Lys	Ser	Leu	Ser
		35					40					45			
Phe	Thr	Met	Ser	Trp	Leu	Pro	Thr	Ile	His	Pro	Ser	Trp	Ile	Thr	Ile
	50					55					60				
Ala	Met	Lys	Glu	Phe	Pro	Pro	Glu	Ile	Gln	Gly	Gln	Leu	Leu	Ala	Trp
65					70				75						80
Leu	Pro	Glu	Pro	Leu	Val	Gln	Glu	Ile	Leu	Pro	Leu	Leu	Pro	Gly	Ile
				85					90					95	
Ser	Ile	Ala	Pro	His	Arg	Cys	Ala	Pro	Phe	Gly	Ala	Phe	Tyr	Leu	Leu
			100					105					110		
Asp	Met	Leu	Ser	Lys	Lys	Ile	Arg	Pro	Cys	Gly	Ile	Thr	Glu	Glu	Ile
	115						120					125			
Phe	Leu	Pro	Ala	Ser	Ser	Ala	Asn	Ala	Ile	Leu	Tyr	Tyr	Thr	Gly	Pro
	130					135					140				
Val	Lys	Ile	Ala	Leu	Ile	Asn	Cys	Leu	Gly	Leu	Tyr	Ser	Ile	Ala	Lys
145					150					155					160
Glu	Leu	Lys	His	Ile	Leu	Asp	Lys	Val	Val	Ile	Glu	Arg	Val	Lys	Asn
			165						170					175	
Ala	Leu	Ser	Pro	Thr	Glu	Lys	Leu	Phe	Leu	Thr	Tyr	Cys	Gln	Ser	His
			180					185					190		
Pro	Met	Lys	His	Leu	Glu	Thr	Thr	Asn	Phe	Leu	Ser	Ser	Trp	Thr	Thr
	195						200					205			
Asp	Ala	Glu	Leu	Arg	Gln	Phe	Val	His	Lys	Gln	Gly	Leu	Glu	Phe	Leu
	210				215						220				
Gly	Lys	Ala	Leu	Thr	Lys	Glu	Asn	Ala	Ser	Phe	Leu	Trp	Tyr	Phe	Leu
225					230					235					240
Arg	Arg	Leu	Asp	Val	Gly	Arg	Ala	Tyr	Ile	Val	Glu	Gln	Thr	Leu	Lys
				245					250					255	
Thr	Trp	Tyr	Asp	His	Pro	Tyr	Val	Asp	Tyr	Phe	Lys	Ser	Arg	Leu	Glu
			260					265					270		
Gln	Cys	Met	Lys	Val	Leu	Val	Lys								
	275						280								

<210> 830  
 <211> 342  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 830  
 Ile Lys Arg Tyr Ala Trp Ile Met Val Arg Arg Ser Ile Ser Phe Cys  
 1 5 10 15  
 Leu Phe Phe Leu Met Thr Leu Leu Cys Cys Thr Ser Cys Asn Ser Arg  
 20 25 30  
 Ser Leu Ile Val His Gly Leu Pro Gly Arg Glu Ala Asn Glu Ile Val  
 35 40 45  
 Val Leu Leu Val Ser Lys Gly Val Ala Ala Gln Lys Leu Pro Gln Ala  
 50 55 60  
 Ala Ala Ala Thr Ala Gly Ala Ala Thr Glu Gln Met Trp Asp Ile Ala  
 65 70 75 80  
 Val Pro Ser Ala Gln Ile Thr Glu Ala Leu Ala Ile Leu Asn Gln Ala  
 85 90 95  
 Gly Leu Pro Arg Met Lys Gly Thr Ser Leu Leu Asp Leu Phe Ala Lys  
 100 105 110  
 Gln Gly Leu Val Pro Ser Glu Leu Gln Glu Lys Ile Arg Tyr Gln Glu  
 115 120 125  
 Gly Leu Ser Glu Gln Met Ala Ser Thr Ile Arg Lys Met Asp Gly Val  
 130 135 140  
 Val Asp Ala Ser Val Gln Ile Ser Phe Thr Thr Glu Asn Glu Asp Asn  
 145 150 155 160  
 Leu Pro Leu Thr Ala Ser Val Tyr Ile Lys His Arg Gly Val Leu Asp  
 165 170 175  
 Asn Pro Asn Ser Ile Met Val Ser Lys Ile Lys Arg Leu Ile Ala Ser  
 180 185 190  
 Ala Val Pro Gly Leu Val Pro Glu Asn Val Ser Val Val Ser Asp Arg  
 195 200 205  
 Ala Ala Tyr Ser Asp Ile Thr Ile Asn Gly Pro Trp Gly Leu Thr Glu  
 210 215 220  
 Glu Ile Asp Tyr Val Ser Val Trp Gly Ile Ile Leu Ala Lys Ser Ser  
 225 230 235 240  
 Leu Thr Lys Phe Arg Leu Ile Phe Tyr Val Leu Ile Leu Ile Leu Phe  
 245 250 255  
 Val Ile Ser Cys Gly Leu Leu Trp Val Ile Trp Lys Thr His Thr Leu  
 260 265 270  
 Ile Met Thr Met Gly Gly Thr Lys Gly Phe Phe Asn Pro Thr Pro Tyr  
 275 280 285  
 Thr Lys Asn Ala Leu Glu Ala Lys Lys Ala Glu Gly Ala Ala Ala Asp  
 290 295 300  
 Lys Glu Lys Lys Glu Asp Ala Asp Ser Gln Gly Glu Ser Lys Asn Ala  
 305 310 315 320  
 Glu Thr Ser Asp Lys Asp Ser Ser Asp Lys Asp Ala Pro Glu Gly Ser  
 325 330 335  
 Asn Glu Ile Glu Gly Ala  
 340

<210> 831  
 <211> 190  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 831  
 Lys Tyr Ile Cys Phe Val Pro Thr Leu Ala Lys Ser Phe Tyr Ile Asn  
 1 5 10 15  
 Ile Arg Asp Ser Arg Phe Tyr Ser Trp Leu Cys Phe Ile Met Lys Glu  
 20 25 30

Thr	Tyr	Tyr	Arg	Asp	Phe	Leu	His	Glu	Asn	Tyr	Leu	Lys	Asn	Lys	Lys
	35						40					45			
Ser	Met	Phe	Met	Lys	Ile	Tyr	Lys	Thr	Ala	Gly	Glu	Phe	Phe	Leu	Ala
	50					55					60				
Asn	Ala	Lys	Trp	Pro	Leu	Val	Pro	Ala	Gly	Tyr	Arg	Arg	Val	Arg	Gly
65					70					75					80
Lys	Asp	Phe	Val	Leu	Ser	Pro	Leu	Val	Asp	Leu	Val	Ile	Leu	Phe	Pro
			85						90					95	
Trp	Val	Thr	Lys	Asp	Ser	Arg	Tyr	Ser	Pro	Cys	Ser	Met	Thr	Phe	Thr
			100					105					110		
Cys	Ile	Cys	Arg	Ser	Ile	Val	Glu	Cys	Ile	Pro	Val	Val	Ser	Thr	Leu
		115					120					125			
Phe	Gly	Ile	Gly	Arg	Phe	Cys	Ala	Val	Trp	Cys	Val	Glu	Gly	Phe	Ser
	130					135					140				
Gly	Ser	Thr	Phe	Asp	Lys	Ile	Tyr	His	Thr	Ile	Val	Ala	Val	Leu	Gly
145					150					155					160
Ile	Leu	Gly	Leu	Gly	Ile	Leu	Thr	Phe	Ile	Leu	Arg	Ile	Ile	Phe	Ser
				165					170					175	
Val	Leu	Met	Leu	Pro	Val	Trp	Phe	Leu	Phe	Lys	Cys	Tyr	Ser		
			180					185					190		

<210> 832  
 <211> 207  
 <212> PRT  
 <213> Chlamydia pneumoniae

Asp	Ser	Cys	Ser	Phe	Leu	Leu	Pro	Cys	Phe	Glu	Val	Glu	Ala	Gln	Thr
1				5					10					15	
Phe	Pro	Gln	Val	Phe	Ser	Lys	Val	Val	Val	Tyr	Lys	Tyr	Lys	Ser	Ser
			20					25					30		
Arg	Ile	Leu	Leu	Ile	Ala	Leu	Leu	Tyr	Asn	Ile	Thr	Leu	Val	Leu	Gly
		35					40					45			
Leu	Ile	Phe	Ile	His	Lys	Lys	Tyr	Leu	Gly	Gln	Lys	Gly	Arg	Val	Ile
	50					55					60				
Leu	Lys	Ile	Tyr	Gln	Asn	Glu	Glu	Glu	Phe	Phe	Arg	Ala	Thr	Glu	Arg
65					70					75					80
Phe	Pro	Ser	Ile	Gly	Ala	Gly	Tyr	Leu	Arg	Val	Arg	Asn	Lys	Asn	Ser
				85					90					95	
Val	Leu	Phe	Pro	Phe	Glu	Asp	Leu	Met	Leu	Val	Cys	Pro	Ser	Val	Pro
			100					105					110		
Lys	Asp	Phe	Pro	Leu	Ser	Ala	Phe	Lys	Val	Thr	Thr	Lys	Leu	Ile	Tyr
		115					120					125			
Trp	Ser	Val	Leu	Glu	Ser	Ile	Pro	Val	Val	Gly	Ala	Phe	Phe	Phe	Ser
	130					135					140				
Ile	Gly	Arg	Leu	Phe	Ala	Met	Trp	Cys	Ile	Glu	Asp	Phe	Pro	Gly	Ser
145					150					155					160
Ile	Phe	Ser	Arg	Ile	Tyr	His	Thr	Ile	Val	Gly	Val	Leu	Gly	Ile	Leu
				165					170					175	
Gly	Leu	Gly	Ile	Ile	Met	Phe	Ile	Leu	Arg	Ile	Ile	Phe	Thr	Leu	Leu
			180					185					190		
Thr	Leu	Pro	Phe	Trp	Leu	Ile	Ser	Cys	Leu	Lys	Ser	Ser	Ala	Ala	
		195					200						205		

<210> 833  
 <211> 62  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 833

Asn	Lys	Arg	Lys	Asn	Asn	Val	Leu	Ile	Arg	Lys	Ser	Glu	Ser	Glu	Gly
1				5					10					15	
Ala	Phe	Phe	Glu	Ala	Thr	Gln	Asn	Tyr	Pro	Thr	Ile	Gln	Gln	Gly	Tyr
			20					25					30		
Gln	Leu	Val	Arg	Ile	Arg	Glu	His	Asn	Leu	Ser	Val	Arg	Ala	His	Phe
		35					40					45			
Asp	Leu	Ser	Leu	Ser	Leu	Asp	Ala	Ser	Val	His	Pro	Ala	Ala		
	50					55					60				

<210> 834

<211> 308

<212> PRT

<213> Chlamydia pneumoniae

<400> 834

Val	Met	Lys	Cys	Arg	Pro	Thr	Leu	Asn	Thr	Asp	Gln	Pro	Arg	Val	Arg
1				5					10					15	
Lys	Lys	Leu	Pro	Glu	Arg	Phe	Pro	Lys	Trp	Leu	Gln	Arg	Pro	Leu	Pro
			20					25				30			
Gln	Gly	Ser	Ala	Phe	His	Ala	Thr	Asp	Ala	Thr	Ile	Lys	Arg	Ser	Gly
		35					40					45			
Met	Pro	Thr	Val	Cys	Glu	Glu	Ala	Leu	Cys	Pro	Asn	Arg	Ala	Glu	Cys
	50					55					60				
Trp	Ser	Arg	Lys	Thr	Ala	Thr	Tyr	Leu	Ala	Leu	Gly	Asp	Val	Cys	Thr
65					70					75				80	
Arg	Ser	Cys	Gly	Phe	Cys	Asn	Ile	Gly	His	Ser	Lys	Thr	Pro	Pro	Ala
				85					90					95	
Leu	Asp	Pro	Thr	Glu	Pro	Glu	Arg	Ile	Ala	Leu	Ser	Ala	Lys	Glu	Leu
			100					105					110		
Gly	Leu	Lys	His	Val	Val	Ile	Thr	Met	Val	Ala	Arg	Asp	Asp	Leu	Glu
		115					120					125			
Asp	Gly	Gly	Ala	Gln	Gly	Leu	Val	Asp	Ile	Ile	Gln	Lys	Leu	Arg	Glu
	130					135					140				
Glu	Leu	Pro	Gln	Ala	Thr	Thr	Glu	Val	Leu	Ala	Ser	Asp	Phe	Gln	Gly
145					150					155				160	
Asn	Val	Ser	Ala	Leu	His	Thr	Leu	Leu	Asp	Ser	Gly	Ile	Thr	Ile	Tyr
				165					170					175	
Asn	His	Asn	Val	Glu	Thr	Val	Ala	Arg	Leu	Ser	Pro	Leu	Val	Arg	His
			180					185					190		
Lys	Ala	Thr	Tyr	Ala	Arg	Ser	Met	Phe	Met	Leu	Glu	Gln	Ala	Ala	Asn
		195					200					205			
Tyr	Leu	Pro	Asp	Leu	Lys	Ile	Lys	Ser	Gly	Ile	Met	Val	Gly	Leu	Gly
	210					215					220				
Glu	Met	Glu	Gly	Glu	Val	Lys	Gln	Thr	Leu	Gln	Asp	Leu	Ala	Ser	Ile
225					230					235				240	
Gly	Val	Arg	Ile	Val	Thr	Ile	Gly	Gln	Tyr	Leu	Arg	Pro	Ser	Arg	Lys
				245					250					255	
His	Leu	Gln	Val	Lys	Ser	Tyr	Val	Thr	Pro	Glu	Thr	Phe	Asp	Tyr	Tyr
			260					265					270		
Arg	Arg	Val	Gly	Glu	Ala	Met	Gly	Leu	Phe	Val	Tyr	Ala	Gly	Pro	Phe
		275					280					285			
Val	Arg	Ser	Ser	Phe	Asn	Ala	Asp	Met	Ile	Leu	Ala	Ser	Val	Gln	Asp
	290					295					300				
Lys	Ala	Ser	Ala												
305															

<210> 835

<211> 475

<212> PRT

<213> Chlamydia pneumoniae

<400> 835

Arg	Gly	Val	Leu	Phe	Glu	Ile	Leu	Ile	Thr	Val	Ser	Glu	Asn	Met	Thr
1				5					10					15	
Gln	Glu	Phe	Asp	Cys	Val	Val	Ile	Gly	Ala	Gly	Pro	Ser	Gly	Tyr	Val
			20					25					30		
Ala	Ala	Ile	Thr	Ala	Ala	Gln	Ser	Lys	Leu	Arg	Thr	Ala	Leu	Ile	Glu
		35					40					45			
Glu	Asp	Gln	Ala	Gly	Gly	Thr	Cys	Leu	Asn	Arg	Gly	Cys	Ile	Pro	Ser
	50					55					60				
Lys	Ala	Leu	Ile	Ala	Gly	Ala	Asn	Val	Val	Ser	His	Ile	Lys	His	Ala
65					70					75				80	
Glu	Gln	Phe	Gly	Ile	His	Val	Asp	Gly	Tyr	Thr	Ile	Asp	Tyr	Pro	Ala
				85					90					95	
Met	Ala	Lys	Arg	Lys	Asn	Thr	Val	Val	Gln	Gly	Ile	Arg	Gln	Gly	Leu
			100					105					110		
Glu	Gly	Leu	Ile	Arg	Ser	Asn	Lys	Ile	Thr	Val	Leu	Lys	Gly	Thr	Gly
		115				120						125			
Ser	Leu	Val	Ser	Ser	Thr	Glu	Val	Lys	Val	Ile	Gly	Gln	Asp	Thr	Thr
	130					135					140				
Ile	Ile	Lys	Ala	Asn	His	Ile	Ile	Leu	Ala	Thr	Gly	Ser	Glu	Pro	Arg
145					150					155					160
Pro	Phe	Pro	Gly	Val	Pro	Phe	Ser	Ser	Arg	Ile	Leu	Ser	Ser	Thr	Gly
				165					170					175	
Ile	Leu	Glu	Leu	Glu	Val	Leu	Pro	Lys	Lys	Leu	Ala	Ile	Ile	Gly	Gly
			180					185					190		
Gly	Val	Ile	Gly	Cys	Glu	Phe	Ala	Ser	Leu	Phe	His	Thr	Leu	Gly	Val
		195					200					205			
Glu	Ile	Thr	Val	Ile	Glu	Ala	Leu	Asp	His	Ile	Leu	Ala	Val	Asn	Asn
	210					215					220				
Lys	Glu	Val	Ser	Gln	Thr	Val	Thr	Asn	Lys	Phe	Thr	Lys	Gln	Gly	Ile
225					230					235					240
Arg	Ile	Leu	Thr	Lys	Ala	Ser	Ile	Ser	Ala	Ile	Glu	Glu	Ser	Gln	Asn
				245					250					255	
Gln	Val	Arg	Ile	Thr	Val	Asn	Asp	Gln	Val	Glu	Glu	Phe	Asp	Tyr	Val
			260					265					270		
Leu	Val	Ala	Ile	Gly	Arg	Gln	Phe	Asn	Thr	Ala	Ser	Ile	Gly	Leu	Asp
		275					280					285			
Asn	Ala	Gly	Val	Ile	Arg	Asp	Asp	Arg	Gly	Val	Ile	Pro	Val	Asp	Glu
	290					295					300				
Thr	Met	Arg	Thr	Asn	Val	Pro	Asn	Ile	Tyr	Ala	Ile	Gly	Asp	Ile	Thr
305					310					315					320
Gly	Lys	Trp	Leu	Leu	Ala	His	Val	Ala	Ser	His	Gln	Gly	Val	Ile	Ala
				325					330					335	
Ala	Lys	Asn	Ile	Ser	Gly	His	His	Glu	Val	Met	Asp	Tyr	Ser	Ala	Ile
			340					345					350		
Pro	Ser	Val	Ile	Phe	Thr	His	Pro	Glu	Ile	Ala	Met	Val	Gly	Leu	Ser
		355					360					365			
Leu	Gln	Glu	Ala	Glu	Gln	Gln	Asn	Leu	Pro	Ala	Lys	Leu	Thr	Lys	Phe
	370					375					380				
Pro	Phe	Lys	Ala	Ile	Gly	Lys	Ala	Val	Ala	Leu	Gly	Ala	Ser	Asp	Gly
385					390					395					400
Phe	Ala	Ala	Ile	Val	Ser	His	Glu	Ile	Thr	Gln	Gln	Ile	Leu	Gly	Ala
			405						410					415	
Tyr	Val	Ile	Gly	Pro	His	Ala	Ser	Ser	Leu	Ile	Gly	Glu	Met	Thr	Leu
			420					425					430		
Ala	Ile	Arg	Asn	Glu	Leu	Thr	Leu	Pro	Cys	Ile	Tyr	Glu	Thr	Val	His
		435					440					445			
Ala	His	Pro	Thr	Leu	Ser	Glu	Val	Trp	Ala	Glu	Gly	Ala	Leu	Leu	Ala
	450					455					460				

Thr Asn His Pro Leu His Phe Pro Pro Lys Ser  
465 470 475

<210> 836  
<211> 157  
<212> PRT  
<213> Chlamydia pneumoniae

<400> 836  
Lys Ile Pro Met Pro Phe Ala Lys Glu Thr Glu Met Gln Arg Thr Cys  
1 5 10 15  
Trp Lys Cys Glu Gly Ser Val Ser Met His Val Pro Gln Cys Pro Tyr  
20 25 30  
Cys Ser Ala Phe Leu Gln Asp Pro Pro Val Ala Ser Gly Gly Phe Ser  
35 40 45  
Ser Cys His Ile Ser Phe Pro Glu Gly Ala Ser Lys Glu Glu Ala Glu  
50 55 60  
Asp Leu Phe Ala Val Ser Ser Glu Asp Trp Glu Ala Val Leu Gly Asp  
65 70 75 80  
Gln Asn Pro Thr Gln Glu Thr Asn Lys Gln Val Ile Pro Glu Trp Thr  
85 90 95  
Trp Leu Gln Ser Trp Pro Leu Ala Ala Leu Phe Leu Gly Ile Gly Leu  
100 105 110  
Leu Ala Phe Ala Phe Leu Ile Leu Leu Phe Ser Thr Asp Ser Gly Leu  
115 120 125  
Val Leu Thr Trp Pro Lys Asn Arg Ala Tyr Phe Tyr Gly Ile Ile Gly  
130 135 140  
Ala Ala Val Ala Tyr Arg Gly Tyr Arg Lys Leu Pro Leu  
145 150 155

<210> 837  
<211> 1218  
<212> PRT  
<213> Chlamydia pneumoniae

<400> 837  
His Asn Ile Met Val Leu Glu Ala Leu Ala Ile Phe Arg Gln Asp Ala  
1 5 10 15  
Met Gln His Leu Leu Lys His Arg Lys Glu Ile Val Val Asp Phe Cys  
20 25 30  
Glu Asp Ser Tyr Thr Ile Arg Ile Pro Asp Glu Glu Ala Pro Glu Gly  
35 40 45  
Tyr Trp Leu Ser Thr Leu Lys Leu Gln Asp Ile Asp Arg Leu Thr Phe  
50 55 60  
Ala Ser Cys Ser Cys Pro Asp Gly Glu Cys Cys Leu His Leu Met Thr  
65 70 75 80  
Ala Tyr Phe Ala Val Tyr Asp Ala Leu Gly Leu His Pro Leu His Asp  
85 90 95  
Lys Phe Arg His Ser Phe Trp Tyr Ala Val Phe Ser His Phe Phe Leu  
100 105 110  
Asp Ser Ile Pro Leu Gln Ala Gln Gly Glu Met Val Tyr Thr Leu Glu  
115 120 125  
Ser Pro His Ile Thr Leu Thr Ile Glu Cys Leu Ser Glu Glu Val Phe  
130 135 140  
Gln Asp Trp Leu Arg Thr Ile His Ala Ser Glu Glu Pro Thr Val Phe  
145 150 155 160  
Thr Asn Lys Thr Phe Leu Lys Ser Ala Leu Tyr Arg Thr Ala Lys Lys  
165 170 175  
Phe Phe Phe Leu Asn Glu Glu Gly Ala Glu Leu Thr Ile Gly Glu Asn  
180 185 190



Ser	Gln	Gly	Phe	Pro	Ser	His	Phe	Ser	Leu	Gln	Trp	Gln	Gly	Leu	Val	195	200	205
Phe	Lys	Ala	Glu	Ile	Leu	Asp	Phe	Pro	Thr	Leu	Glu	Asp	Ile	Phe	Pro	210	215	220
Lys	Leu	Glu	Leu	Ala	His	Thr	Ser	Leu	Glu	Asn	Val	Ser	His	Asp	Ile	225	230	235
Ser	Ile	Thr	Asn	Val	Thr	Val	Cys	Ala	Glu	Glu	Ala	Lys	Val	Asn	Phe	245	250	255
Thr	Leu	Ser	Pro	Val	Ile	His	Lys	Lys	Asp	Arg	Glu	Asn	His	Pro	Lys	260	265	270
Thr	Arg	Ile	Gly	Ser	Val	Glu	Tyr	Val	Ala	Lys	Thr	His	Glu	Met	Ile	275	280	285
Thr	Gly	Pro	Lys	Ala	Ile	Ala	Leu	Pro	Ile	Tyr	Ala	Ile	Pro	Leu	Leu	290	295	300
Ala	Asp	Lys	Phe	Lys	Asp	Gln	Leu	Leu	Ser	Leu	Leu	Cys	Tyr	Asp	Ser	305	310	315
Leu	Glu	Tyr	Arg	Leu	Arg	Tyr	Asp	Ile	Arg	Leu	Leu	Arg	Asp	Ala	Ser	325	330	335
Phe	Ser	Phe	Ser	Ala	Tyr	Leu	Val	Thr	Pro	Gly	Asp	Leu	Asp	Asn	Gly	340	345	350
Ser	Leu	Ile	Tyr	Pro	Asn	Tyr	Cys	Tyr	Ser	Pro	Thr	Lys	Gly	Leu	Met	355	360	365
Gln	Val	Val	Gly	Met	Leu	Ser	Pro	Lys	Gln	Ala	Phe	Ile	Val	Lys	Ser	370	375	380
Glu	Gln	Val	Glu	Asp	Phe	Leu	Asn	Glu	Arg	Gly	His	Leu	Ile	Gln	Glu	385	390	395
Pro	Gly	Phe	Gln	Thr	Phe	Ile	Asn	Glu	Arg	Pro	Glu	Gly	His	Leu	Thr	405	410	415
Tyr	Asn	Val	Thr	Glu	Gln	Gly	Val	Leu	Leu	Phe	His	Tyr	Asp	Val	Gly	420	425	430
Asp	Pro	Ser	Ser	Thr	Glu	Ile	Arg	Phe	Gly	Thr	Trp	Thr	Tyr	Tyr	Thr	435	440	445
Asn	Gln	Gly	Phe	Phe	Leu	Glu	Lys	Lys	Asn	Asp	Leu	Pro	Ile	Gln	Asp	450	455	460
Gly	Leu	Ile	Val	Glu	Pro	Gln	Asp	Ile	Pro	Ala	Phe	Ile	Val	Lys	Asn	465	470	475
Asp	Ala	Ala	Leu	Arg	Arg	Leu	Pro	Asn	Phe	Phe	Ser	Ser	Pro	Pro	Asn	485	490	495
Leu	Lys	Asp	Leu	Leu	Ile	Glu	Val	His	Arg	Gln	Ser	Arg	Gly	Lys	Gly	500	505	510
Leu	Asp	Leu	Lys	Pro	Ile	Leu	Val	Gly	Leu	Gly	Glu	Ser	Arg	Cys	Trp	515	520	525
Leu	Phe	Gly	Val	Phe	Leu	Tyr	Arg	Glu	Asp	Ile	Gly	Phe	Ser	Leu	Ile	530	535	540
Pro	Thr	Pro	Leu	Gln	Gly	Leu	Cys	Phe	Leu	Pro	Arg	Val	Ile	Pro	Pro	545	550	555
Glu	Asn	Val	Pro	Gln	Phe	Leu	Thr	Gln	Tyr	Ala	Gln	His	Glu	Arg	Ile	565	570	575
Leu	Phe	Pro	Asn	Pro	Gln	Thr	Arg	Pro	Pro	Glu	Ser	Tyr	Glu	Leu	Val	580	585	590
Ile	Gln	Ser	Ile	His	Arg	Pro	His	Pro	Ala	Ser	Pro	Leu	His	Leu	Gln	595	600	605
Leu	Glu	Leu	Lys	Thr	Asn	Leu	Gly	Ser	Val	Pro	Ile	Gly	Ile	Ala	Leu	610	615	620
Gln	Gly	Leu	Lys	Ser	Lys	His	Thr	Phe	Leu	Phe	Thr	Gln	Ala	Gly	Phe	625	630	635
Leu	Asp	Leu	Lys	Gln	Asn	Leu	Phe	Gln	Phe	Leu	Lys	Gln	Phe	Leu	Ser	645	650	655
Thr	Gln	Lys	Cys	Val	Ile	Ala	Glu	Asn	Thr	Val	Ile	Ala	Asn	Ile	Thr	660	665	670

Asp	Val	Phe	Lys	Leu	Asp	Ala	Leu	Ala	Pro	Leu	Ser	Val	Thr	Asp	Asp	
		675					680					685				
Thr	Ile	Ala	Asn	Pro	Glu	Asp	Leu	Gln	Phe	Phe	Ser	Gln	Leu	Lys	Ala	
	690					695					700					
Ala	Cys	Leu	Pro	Pro	Ile	Pro	Gln	Asn	Leu	Phe	Ser	Ser	Asp	His	Gln	
705					710					715					720	
Leu	Arg	Pro	Tyr	Gln	Asn	Ser	Gly	Leu	Leu	Trp	Met	Trp	Phe	Leu	Tyr	
				725					730					735		
Asn	His	Arg	Leu	Ser	Gly	Leu	Leu	Cys	Asp	Glu	Met	Gly	Leu	Gly	Lys	
			740					745					750			
Thr	His	Gln	Ala	Thr	Ala	Leu	Leu	Asp	Ile	Val	Phe	Gln	Ser	Ser	Gln	
		755					760					765				
Pro	Ser	Ala	Arg	Pro	Lys	Phe	Leu	Ile	Val	Cys	Pro	Thr	Ser	Val	Leu	
	770					775					780					
Pro	His	Trp	Glu	His	Ile	Leu	Ser	Asn	His	Leu	Pro	Gly	Val	Ser	Ile	
785					790					795					800	
Phe	Ser	Phe	His	Gly	Pro	Asn	Lys	Pro	Ser	Glu	Leu	Pro	Pro	Ala	Asp	
				805					810					815		
Ile	Leu	Leu	Thr	Ser	Tyr	Gly	Thr	Leu	Arg	Gln	Asn	Tyr	Asp	Lys	Phe	
			820					825					830			
Tyr	Lys	Ile	Ala	Phe	Thr	Ile	Val	Val	Phe	Asp	Glu	Ile	His	Met	Ala	
	835						840					845				
Lys	Asn	Lys	Ser	Ser	Gln	Ile	His	Lys	Ile	Leu	Cys	Arg	Ile	Asp	Ala	
	850					855					860					
Gln	Met	Lys	Leu	Gly	Leu	Thr	Gly	Thr	Pro	Ile	Glu	Asn	Asn	Leu	Leu	
865					870					875					880	
Glu	Phe	Lys	Gly	Leu	Leu	Asp	Ile	Ile	Leu	Pro	Asn	Tyr	Leu	Pro	Ser	
				885					890					895		
Asp	Ala	Leu	Phe	Lys	Lys	Leu	Phe	Thr	Lys	Arg	Cys	Ser	Ser	Glu	Glu	
			900					905					910			
Leu	Glu	Glu	Ile	Ile	Pro	Ser	Gln	Asp	Leu	Leu	Leu	Lys	Leu	Thr	Arg	
	915						920						925			
Pro	Phe	Ile	Leu	Arg	Arg	Thr	Lys	Lys	Leu	Val	Leu	Pro	Glu	Leu	Pro	
	930					935					940					
Asp	Lys	Val	Glu	Ser	Ile	Ile	Ala	Cys	Ser	Leu	Ser	Pro	Asp	Gln	Glu	
945					950					955					960	
Lys	Leu	Tyr	Met	Ala	Thr	Leu	Gln	Arg	Glu	Lys	Ser	His	Ile	Gln	Lys	
				965					970					975		
Leu	Glu	Thr	Pro	Glu	Glu	Pro	Ala	Thr	Asn	Phe	Leu	His	Ile	Phe	Ala	
			980					985					990			
Leu	Leu	Asn	His	Leu	Lys	Gln	Ile	Cys	Asp	His	Pro	Ala	Val	Phe	Phe	
		995					1000					1005				
Lys	Asp	Pro	Asp	Gln	Tyr	Lys	Asn	Tyr	Glu	Ser	Gly	Lys	Trp	Asn	Ala	
	1010					1015					1020					
Phe	Val	Lys	Leu	Leu	Lys	Glu	Ser	Leu	Asn	Ala	Gly	Tyr	Lys	Val	Val	
1025					1030					1035					1040	
Val	Phe	Ser	Gln	Tyr	Ile	His	Met	Ile	Arg	Ile	Ile	Thr	Leu	Tyr	Leu	
				1045					1050					1055		
Glu	Glu	Ile	Gly	Ile	Lys	Tyr	Ala	Ser	Ile	Gln	Gly	Lys	Ser	Leu	Asn	
			1060					1065					1070			
Arg	Lys	Glu	Glu	Ile	Glu	Thr	Phe	Thr	Thr	Asp	Pro	Asn	Cys	Gln	Val	
		1075					1080					1085				
Phe	Val	Gly	Ser	Leu	Leu	Ala	Ala	Gly	Thr	Gly	Ile	Asn	Leu	Thr	Ala	
	1090					1095					1100					
Gly	Asn	Val	Val	Ile	Met	Tyr	Asp	Arg	Trp	Trp	Asn	Pro	Ala	Lys	Glu	
1105					1110					1115					1120	
Asn	Gln	Ala	Leu	Asp	Arg	Val	His	Arg	Ile	Gly	Gln	Lys	Asn	Thr	Val	
				1125					1130					1135		
Phe	Ile	Tyr	Lys	Leu	Ile	Thr	Glu	Asp	Thr	Leu	Glu	Glu	Arg	Ile	His	
			1140					1145					1150			

Tyr Leu Ile Glu Lys Lys Ile Arg Leu Leu Asp Lys Val Ile Ala Ser  
 1155 1160 1165  
 Gln Asp Ser Asn Ile Leu His Met Leu Asn Arg Glu Asp Leu Leu Thr  
 1170 1175 1180  
 Ile Leu Ser Tyr Lys Asp Glu His Gly Thr Ser Asp Ser Glu Glu Ser  
 1185 1190 1195 1200  
 Pro Val Asp Ala Pro Val Glu Asp Asp Thr Gly Val Leu Pro Pro Glu  
 1205 1210 1215  
 Asp Ser

<210> 838  
 <211> 413  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 838  
 Lys Met Lys Lys Asn Ala Ser His Lys Thr Asn Asp Lys Lys Ser Leu  
 1 5 10 15  
 Ser Ile Trp Ser Ile Gly Gly Ser Ile Phe Ala Met Phe Phe Gly Ala  
 20 25 30  
 Gly Asn Ile Val Phe Pro Leu Ala Leu Gly Tyr His Tyr Asn Ala His  
 35 40 45  
 Pro Trp Ser Ala Tyr Phe Gly Met Met Leu Thr Ala Val Cys Val Pro  
 50 55 60  
 Leu Leu Gly Leu Val Ser Met Leu Phe Tyr Ser Gly Asp Tyr Gln Lys  
 65 70 75 80  
 Phe Phe Phe Ser Ile Gly Arg Ile Pro Gly Met Ile Phe Ile Thr Ala  
 85 90 95  
 Ile Ile Leu Leu Ile Gly Pro Phe Gly Gly Ile Pro Arg Ala Ile Ala  
 100 105 110  
 Val Ser His Ala Thr Leu Ile Ser Leu Ser Glu His Lys Ser Ala Phe  
 115 120 125  
 Ile Pro Ser Leu Pro Ile Phe Ser Ala Ile Cys Cys Val Leu Ile Tyr  
 130 135 140  
 Ile Phe Ser Cys Lys Leu Ser Arg Leu Ile Gln Trp Leu Gly Ser Val  
 145 150 155 160  
 Phe Phe Pro Ile Met Leu Val Thr Leu Leu Trp Val Ile Ile Arg Ser  
 165 170 175  
 Phe Met Ile Pro Thr His Pro Met Val Gln Glu Phe Ile Pro Asn Ala  
 180 185 190  
 Arg Gln Ala Trp Leu Ala Gly Phe Ile Glu Gly Phe Asn Thr Met Asp  
 195 200 205  
 Leu Leu Ala Ala Phe Phe Phe Cys Ser Ile Val Leu Ile Ser Leu Arg  
 210 215 220  
 Gln Leu Val Ala Glu Glu Lys His Pro Thr Glu Glu Ile Pro Leu  
 225 230 235 240  
 Ser Phe Gln Gly Ile Ser Lys Lys Asn Lys Arg Ser Leu Ala Leu Gly  
 245 250 255  
 Phe Phe Leu Ala Ala Ile Leu Leu Gly Met Thr Tyr Leu Gly Phe Val  
 260 265 270  
 Leu Ser Ala Ala Arg His Ala Gly Leu Leu Val Asn Val Ser Lys Gly  
 275 280 285  
 His Ile Leu Gly Arg Ile Ser Ala Ile Ala Leu Gly Pro Asn Ser Ile  
 290 295 300  
 Leu Ala Gly Val Ser Val Phe Ile Ala Cys Leu Thr Thr Glu Ile Ala  
 305 310 315 320  
 Leu Val Gly Ile Val Ala Asp Phe Leu Ala Arg Val Val Ser Phe Lys  
 325 330 335  
 Lys Leu Asn Tyr Ala Ser Ala Val Ile Cys Thr Leu Ile Pro Thr Tyr  
 340 345 350

Leu Ile Ser Ile Leu Asn Phe Glu Thr Ile Ser His Leu Leu Leu Pro  
 355 360 365  
 Leu Leu Gln Leu Ser Tyr Pro Ala Leu Ile Val Leu Ala Cys Gly Asn  
 370 375 380  
 Ile Ala Tyr Lys Leu Trp Asn Phe Arg Tyr Ser Pro Val Leu Phe Tyr  
 385 390 395 400  
 Leu Thr Leu Ser Leu Thr Ile Val Leu Lys Leu Val Asn  
 405 410

<210> 839  
 <211> 211  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 839  
 Leu Thr Met Lys Gln Phe Ile Leu Arg Thr Leu Asn Ala Leu Phe Pro  
 1 5 10 15  
 Asn Pro Lys Pro Ser Leu Glu Gly Trp Ser Ser Pro Phe Gln Leu Leu  
 20 25 30  
 Ile Ala Ile Leu Leu Ser Gly Asn Ser Thr Asp Lys Ala Val Asn Ser  
 35 40 45  
 Val Thr Pro Gln Leu Phe Ala Lys Ala Pro Asp Ala Gln Ser Ile Leu  
 50 55 60  
 Asp Leu Pro Pro Gly Lys Leu Tyr Gln Leu Ile Ala Pro Cys Gly Leu  
 65 70 75 80  
 Gly Glu Arg Lys Ser Ala Tyr Ile Tyr Gln Leu Ser Gln Ile Leu Val  
 85 90 95  
 Arg Asp Phe His Gly Glu Pro Pro Asn Asp Met Ala Leu Leu Thr Gln  
 100 105 110  
 Leu Pro Gly Val Gly Arg Lys Thr Ala Ser Val Phe Leu Gly Ile Ala  
 115 120 125  
 Tyr Gly Lys Pro Thr Phe Pro Val Asp Thr His Ile Leu Arg Leu Ala  
 130 135 140  
 Gln Arg Trp Lys Ile Ser Glu Lys Lys Ser Pro Ser Ala Ala Glu Lys  
 145 150 155 160  
 Asp Leu Ala Arg Phe Phe Gly His Glu Asn Thr Pro Lys Leu His Leu  
 165 170 175  
 Gln Leu Ile Tyr Tyr Ala Arg Gln Tyr Cys Pro Ala Leu His His Lys  
 180 185 190  
 Ile Asp Asn Cys Pro Ile Cys Ser Tyr Leu Ala Lys Glu Ala Asn Ser  
 195 200 205  
 Thr Arg Thr  
 210

<210> 840  
 <211> 472  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 840  
 Ile Ser Leu Asn Ile Tyr Pro Asn Ser Phe His Leu Phe Asn Leu Lys  
 1 5 10 15  
 Leu Gly Ile Leu Ser Glu Ser Ser Phe Asn Phe Ser Ile Phe Met Leu  
 20 25 30  
 Lys His Asp Thr Ile Ala Ala Ile Ala Thr Pro Pro Gly Glu Gly Ser  
 35 40 45  
 Ile Ala Val Val Arg Leu Ser Gly Pro Gln Ala Ile Val Ile Ala Asp  
 50 55 60  
 Arg Ile Phe Ser Gly Ser Val Ala Ser Phe Ala Ser His Thr Ile His  
 65 70 75 80

Leu Gly Gln Val Ile Phe Glu Glu Thr Leu Ile Asp Gln Ala Leu Leu  
                             85                            90                            95  
 Leu Leu Met Arg Ser Pro Arg Ser Phe Thr Gly Glu Asp Val Val Glu  
                             100                            105                            110  
 Phe Gln Cys His Gly Gly Phe Phe Ala Cys Ser Gln Ile Leu Asp Ala  
                             115                            120                            125  
 Leu Ile Ala Leu Gly Ala Arg Pro Ala Leu Pro Gly Glu Phe Ser Gln  
                             130                            135                            140  
 Arg Ala Phe Leu Asn Gly Lys Ile Asp Leu Val Gln Ala Glu Ala Ile  
                             145                            150                            155                            160  
 Gln Asn Leu Ile Val Ala Glu Asn Ile Asp Ala Phe Arg Ile Ala Gln  
                             165                            170                            175  
 Thr His Phe Gln Gly Asn Phe Ser Lys Lys Ile Gln Glu Ile His Thr  
                             180                            185                            190  
 Leu Ile Ile Glu Ala Leu Ala Phe Leu Glu Val Leu Ala Asp Phe Pro  
                             195                            200                            205  
 Glu Glu Glu Gln Pro Asp Leu Leu Val Pro Gln Glu Lys Ile Gln Asn  
                             210                            215                            220  
 Ala Leu His Ile Val Glu Asp Phe Ile Ser Ser Phe Asp Glu Gly Gln  
                             225                            230                            235                            240  
 Arg Leu Ala Gln Gly Thr Ser Leu Ile Leu Ala Gly Lys Pro Asn Val  
                             245                            250                            255  
 Gly Lys Ser Ser Leu Leu Asn Ala Leu Leu Gln Lys Asn Arg Ala Ile  
                             260                            265                            270  
 Val Thr His Ile Pro Gly Thr Thr Arg Asp Ile Leu Glu Glu Gln Trp  
                             275                            280                            285  
 Leu Leu Gln Gly Lys Arg Ile Arg Leu Leu Asp Thr Ala Gly Gln Arg  
                             290                            295                            300  
 Thr Thr Asp Asn Asp Ile Glu Lys Glu Gly Ile Glu Arg Ala Leu Ser  
                             305                            310                            315                            320  
 Ala Met Glu Glu Ala Asp Gly Ile Leu Trp Val Ile Asp Ala Thr Gln  
                             325                            330                            335  
 Pro Leu Glu Asp Leu Pro Lys Ile Leu Phe Thr Lys Pro Ser Phe Leu  
                             340                            345                            350  
 Leu Trp Asn Lys Ala Asp Leu Thr Pro Pro Pro Phe Leu Asp Thr Ser  
                             355                            360                            365  
 Leu Pro Gln Phe Ala Ile Ser Ala Lys Thr Gly Glu Gly Leu Thr Gln  
                             370                            375                            380  
 Val Lys Gln Ala Leu Ile Gln Trp Met Gln Lys Gln Glu Ala Gly Lys  
                             385                            390                            395                            400  
 Thr Ser Lys Val Phe Leu Val Ser Ser Arg His His Met Ile Leu Gln  
                             405                            410                            415  
 Glu Val Ala Arg Cys Leu Lys Glu Ala Gln Gln Asn Leu Tyr Leu Gln  
                             420                            425                            430  
 Pro Pro Glu Ile Ile Ala Leu Glu Leu Arg Glu Ala Leu His Ser Ile  
                             435                            440                            445  
 Gly Met Leu Ser Gly Lys Glu Val Thr Glu Ser Ile Leu Gly Glu Ile  
                             450                            455                            460  
 Phe Ser Lys Phe Cys Ile Gly Lys  
                             465                            470

<210> 841  
 <211> 310  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 841  
 Phe Leu Phe Ile Val Ser Arg Gly Leu Val Gln Lys Pro Gln Tyr Ile  
   1                            5                            10                            15  
 Asp Arg Ile Thr Lys Lys Lys Val Ile Glu Pro Ile Phe Tyr Glu Lys  
                             20                            25                            30



Glu Cys Ala Gln Ala Phe Ala Ser Val Pro Gln Asp Leu Phe Glu Glu  
 145 150 155 160  
 Glu Asp Ala Ala Lys Tyr Ala Ser Ala Leu Val Arg Leu Gly Asp Leu  
 165 170 175  
 Asp Ala Ala Cys Ser Leu Ile Glu Pro Trp Ile Ser Pro Leu Ser His  
 180 185 190  
 Gln Glu Thr Phe Val Thr Met Gly His Ile Tyr Phe Thr Ser Lys Arg  
 195 200 205  
 Tyr Lys Asp Ala Ile Asp Phe Tyr Asn Arg Ala Asn Ala Leu Gly Val  
 210 215 220  
 Cys Pro Val Glu Val Thr Tyr Asn Leu Ala Gln Ala Tyr Arg Ile Thr  
 225 230 235 240  
 Ser Ser Tyr Ala Lys Ala Gly Lys Leu Phe Arg Lys Leu Leu Ser Asn  
 245 250 255  
 Pro Val Tyr Lys Glu Glu Ala Leu Phe Asn Ile Gly Leu Cys Glu Gln  
 260 265 270  
 Lys Leu Gly Arg Pro Gly Lys Ala Leu Leu Ile Tyr Gln Ser Ser Asp  
 275 280 285  
 Leu Trp Ser Arg Gly Asp Ala Leu Leu Met Lys Tyr Ala Ala Met Ala  
 290 295 300  
 Ala Met Asp Gln Arg Asp Tyr Val Leu Ala Glu Pro Cys Trp Glu Leu  
 305 310 315 320  
 Ala Leu Arg Cys Ser Thr Phe Ala Lys Asp Tyr Lys Cys Gly Leu Gly  
 325 330 335  
 Tyr Gly Phe Ser Leu Cys Arg Leu Arg Lys Tyr Gly Asp Ala Glu Arg  
 340 345 350  
 Val Tyr Cys Asn Leu Ile Gln Asn Phe Pro Glu Cys Leu Thr Ala Cys  
 355 360 365  
 Lys Ala Leu Ala Trp Leu Cys Gly Val Gly Tyr Ala Thr Leu Leu Gly  
 370 375 380  
 Ser Glu Glu Gly Leu Met Tyr Ala Lys Lys Ala Val Glu Leu Asp His  
 385 390 395 400  
 Ser Cys Glu Thr Leu Glu Leu Leu Ser Ala Cys Glu Ala Arg Cys Gly  
 405 410 415  
 Asn Phe Asp Ala Ala Tyr Glu Ile Gln Ser Phe Leu Ser Ser Arg Asp  
 420 425 430  
 Thr Ser Leu Gln Glu Lys Gln Arg Arg Ser Gln Ile Leu Arg Ile Leu  
 435 440 445  
 Arg Lys Lys Leu Pro Leu Asn Asp His His Ile Val Glu Val Asp Ala  
 450 455 460  
 Leu Leu Ala Ala  
 465

<210> 843

<211> 974

<212> PRT

<213> Chlamydia pneumoniae

<400> 843

Ile Lys Arg His Met Leu Gly Phe Leu Lys Arg Phe Phe Gly Ser Ser  
 1 5 10 15  
 Gln Glu Arg Ile Leu Lys Lys Phe Gln Lys Leu Val Asp Lys Val Asn  
 20 25 30  
 Ile Tyr Asp Glu Met Leu Thr Pro Leu Ser Asp Asp Glu Leu Arg Asn  
 35 40 45  
 Lys Thr Ala Glu Leu Lys Gln Arg Tyr Gln Asn Gly Glu Ser Leu Asp  
 50 55 60  
 Ser Met Leu Pro Glu Ala Tyr Gly Val Val Lys Asn Val Cys Arg Arg  
 65 70 75 80  
 Leu Ala Gly Thr Pro Val Glu Val Ser Gly Tyr His Gln Arg Trp Asp  
 85 90 95

Met	Val	Pro	Tyr	Asp	Val	Gln	Ile	Leu	Gly	Ala	Ile	Ala	Met	His	Lys	
		100						105					110			
Gly	Phe	Ile	Thr	Glu	Met	Gln	Thr	Gly	Glu	Gly	Lys	Thr	Leu	Thr	Ala	
		115					120					125				
Val	Met	Pro	Leu	Tyr	Leu	Asn	Ala	Leu	Thr	Gly	Lys	Pro	Val	His	Leu	
		130				135					140					
Val	Thr	Val	Asn	Asp	Tyr	Leu	Ala	Gln	Arg	Asp	Cys	Glu	Trp	Val	Gly	
145					150					155					160	
Ser	Val	Leu	Arg	Trp	Leu	Gly	Leu	Thr	Thr	Gly	Val	Leu	Val	Ser	Gly	
			165					170						175		
Thr	Leu	Leu	Glu	Lys	Arg	Lys	Lys	Ile	Tyr	Gln	Cys	Asp	Val	Val	Tyr	
		180						185					190			
Gly	Thr	Ala	Ser	Glu	Phe	Gly	Phe	Asp	Tyr	Leu	Arg	Asp	Asn	Ser	Ile	
		195					200					205				
Ala	Thr	Arg	Leu	Glu	Glu	Gln	Val	Gly	Arg	Gly	Tyr	Tyr	Phe	Ala	Ile	
	210					215					220					
Ile	Asp	Glu	Val	Asp	Ser	Ile	Leu	Ile	Asp	Glu	Ala	Arg	Thr	Pro	Leu	
225					230					235					240	
Ile	Ile	Ser	Gly	Pro	Gly	Glu	Lys	His	Asn	Pro	Val	Tyr	Phe	Glu	Leu	
			245					250						255		
Lys	Glu	Lys	Val	Ala	Ser	Leu	Val	Tyr	Leu	Gln	Lys	Glu	Leu	Cys	Ser	
		260						265					270			
Arg	Ile	Ala	Leu	Glu	Ala	Arg	Arg	Gly	Leu	Asp	Ser	Phe	Leu	Asp	Val	
	275						280					285				
Asp	Ile	Leu	Pro	Lys	Asp	Lys	Lys	Val	Leu	Glu	Gly	Ile	Ser	Glu	Phe	
	290				295					300						
Cys	Arg	Ser	Leu	Trp	Leu	Val	Ser	Lys	Gly	Met	Pro	Leu	Asn	Arg	Val	
305				310					315						320	
Leu	Arg	Arg	Val	Arg	Glu	His	Pro	Asp	Leu	Arg	Ala	Met	Ile	Asp	Lys	
			325					330						335		
Trp	Asp	Val	Tyr	Tyr	His	Ala	Glu	Gln	Asn	Lys	Glu	Glu	Ser	Leu	Glu	
		340					345						350			
Arg	Leu	Ser	Glu	Leu	Tyr	Ile	Ile	Val	Asp	Glu	His	Asn	Asn	Asp	Phe	
	355						360					365				
Glu	Leu	Thr	Asp	Lys	Gly	Met	Gln	Gln	Trp	Val	Glu	Tyr	Ala	Gly	Gly	
	370				375					380						
Ser	Thr	Glu	Glu	Phe	Val	Met	Met	Asp	Met	Gly	His	Glu	Tyr	Ala	Leu	
385				390						395					400	
Ile	Glu	Asn	Asp	Glu	Thr	Leu	Ser	Pro	Ala	Asp	Lys	Ile	Asn	Lys	Lys	
			405					410						415		
Ile	Ala	Ile	Ser	Glu	Glu	Asp	Thr	Leu	Arg	Lys	Ala	Arg	Ala	His	Gly	
	420						425						430			
Leu	Arg	Gln	Leu	Leu	Arg	Ala	Gln	Leu	Leu	Met	Glu	Arg	Asp	Val	Asp	
	435						440				445					
Tyr	Ile	Val	Arg	Asp	Asp	Gln	Ile	Val	Ile	Ile	Asp	Glu	His	Thr	Gly	
	450				455					460						
Arg	Pro	Gln	Pro	Gly	Arg	Arg	Phe	Ser	Glu	Gly	Leu	His	Gln	Ala	Ile	
465				470					475						480	
Glu	Ala	Lys	Glu	His	Val	Thr	Ile	Arg	Lys	Glu	Ser	Gln	Thr	Leu	Ala	
			485					490						495		
Thr	Val	Thr	Leu	Gln	Asn	Phe	Phe	Arg	Leu	Tyr	Glu	Lys	Leu	Ala	Gly	
		500					505						510			
Met	Thr	Gly	Thr	Ala	Ile	Thr	Glu	Ser	Arg	Glu	Phe	Lys	Glu	Ile	Tyr	
	515					520						525				
Asn	Leu	Tyr	Val	Leu	Gln	Val	Pro	Thr	Phe	Lys	Pro	Cys	Leu	Arg	Ile	
	530				535						540					
Asp	His	Asn	Asp	Glu	Phe	Tyr	Met	Thr	Glu	Arg	Glu	Lys	Tyr	His	Ala	
545				550					555						560	
Ile	Val	Asn	Glu	Ile	Ala	Thr	Ile	His	Gly	Lys	Gly	Asn	Pro	Ile	Leu	
			565					570						575		



Val	Gly	Thr	Glu	Ser	Val	Glu	Val	Ser	Glu	Lys	Leu	Ser	Arg	Ile	Leu	580	585	590
Arg	Gln	Asn	Arg	Ile	Glu	His	Thr	Val	Leu	Asn	Ala	Lys	Asn	His	Ala	595	600	605
Gln	Glu	Ala	Glu	Ile	Ile	Ala	Gly	Ala	Gly	Lys	Leu	Gly	Ala	Val	Thr	610	615	620
Val	Ala	Thr	Asn	Met	Ala	Gly	Arg	Gly	Thr	Asp	Ile	Lys	Leu	Asp	Asn	625	630	635
Glu	Ala	Val	Ile	Val	Gly	Gly	Leu	His	Val	Ile	Gly	Thr	Thr	Arg	His	645	650	655
Gln	Ser	Arg	Arg	Ile	Asp	Arg	Gln	Leu	Arg	Gly	Arg	Cys	Ala	Arg	Leu	660	665	670
Gly	Asp	Pro	Gly	Ala	Ala	Lys	Phe	Phe	Leu	Ser	Phe	Glu	Asp	Arg	Leu	675	680	685
Met	Arg	Leu	Phe	Ala	Ser	Pro	Lys	Leu	Asn	Thr	Leu	Ile	Arg	His	Phe	690	695	700
Arg	Pro	Pro	Glu	Gly	Glu	Ala	Met	Ser	Asp	Pro	Met	Phe	Asn	Arg	Leu	705	710	715
Ile	Glu	Thr	Ala	Gln	Lys	Arg	Val	Glu	Gly	Arg	Asn	Tyr	Thr	Ile	Arg	725	730	735
Lys	His	Thr	Leu	Glu	Tyr	Asp	Asp	Val	Met	Asn	Lys	Gln	Arg	Gln	Ala	740	745	750
Ile	Tyr	Ala	Phe	Arg	His	Asp	Val	Leu	His	Ala	Glu	Ser	Val	Phe	Asp	755	760	765
Leu	Ala	Lys	Glu	Ile	Leu	Cys	His	Val	Ser	Leu	Met	Val	Ala	Ser	Leu	770	775	780
Val	Met	Ser	Asp	Arg	Gln	Phe	Lys	Gly	Trp	Thr	Leu	Pro	Asn	Leu	Glu	785	790	795
Glu	Trp	Ile	Thr	Ser	Phe	Pro	Ile	Ala	Leu	Asn	Ile	Glu	Glu	Leu		805	810	815
Arg	Gln	Leu	Lys	Asp	Thr	Asp	Ser	Ile	Ala	Glu	Lys	Ile	Ala	Ala	Glu	820	825	830
Leu	Ile	Gln	Glu	Phe	Gln	Val	Arg	Phe	Asp	His	Met	Val	Glu	Gly	Leu	835	840	845
Ser	Lys	Ala	Gly	Gly	Glu	Glu	Leu	Asp	Ala	Ser	Ala	Ile	Cys	Arg	Asp	850	855	860
Val	Val	Arg	Ser	Val	Met	Val	Met	His	Ile	Asp	Glu	Gln	Trp	Arg	Ile	865	870	875
His	Leu	Val	Asp	Met	Asp	Leu	Leu	Arg	Ser	Glu	Val	Gly	Leu	Arg	Thr	885	890	895
Val	Gly	Gln	Lys	Asp	Pro	Leu	Leu	Glu	Phe	Lys	His	Glu	Ser	Phe	Leu	900	905	910
Leu	Phe	Glu	Ser	Leu	Ile	Arg	Asp	Ile	Arg	Ile	Thr	Ile	Ala	Arg	His	915	920	925
Leu	Phe	Arg	Leu	Glu	Leu	Thr	Val	Glu	Pro	Asn	Pro	Arg	Val	Asn	Asn	930	935	940
Val	Ile	Pro	Thr	Val	Ala	Thr	Ser	Phe	His	Asn	Asn	Val	Asn	Tyr	Gly	945	950	955
Pro	Leu	Glu	Leu	Thr	Val	Val	Thr	Asp	Ser	Glu	Asp	Gln	Asp			965	970	

<210> 844  
 <211> 103  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 844  
 Lys Tyr Tyr Thr Pro Pro Thr Ile Ser Arg Ser Pro Trp Ser Asn Ile  
 1 5 10 15  
 Ala Leu Lys Thr Ile Ser Glu Ser Glu Tyr Asp Cys Asn Gln Gln Leu  
 20 25 30

Leu Lys Thr Gln Ser Leu Leu Thr Thr Asn Val Asp Thr Leu Leu Asn  
           35                          40                          45  
 Ala Pro Lys Asp Phe Pro Asn Ser Lys Asn Gln Lys His Ile Leu Phe  
           50                          55                          60  
 Cys Ile Ala Asn Asn Thr Leu Ser His Tyr Ala Gln Phe Leu Ile Ala  
 65                          70                          75                          80  
 Gly Asn Arg Arg Lys Phe Trp Ile Arg Tyr Tyr Asn Asp Gln Val Trp  
                           85                          90                          95  
 Ser Glu Trp Thr Pro Phe Ile  
                           100

<210> 845  
 <211> 79  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 845  
 Asn Lys Asn Lys Leu Ile Ile Ser Trp Arg Phe Lys Val Met Asn Tyr  
 1                          5                          10                          15  
 Asp Gln Tyr Asp Thr Pro Asp Thr Asp His Asp Gln Ile Phe Glu Asp  
                           20                          25                          30  
 Leu Leu Asp Asn Ser Glu Glu Ala Ala Ser Leu Asp Lys Tyr Gln Glu  
                           35                          40                          45  
 Thr Gly Val Tyr Val Glu Glu Asn Thr Asp Gln Gly Asp Leu Leu Ile  
                           50                          55                          60  
 Val Leu Gly Glu Ser Val Phe Lys Asn Thr Ile His Gln Glu Gln  
 65                          70                          75

<210> 846  
 <211> 494  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 846  
 Lys Asn Arg Ile Glu Thr Ile Met Leu Lys Ile Ala Ile Leu Gly Arg  
 1                          5                          10                          15  
 Pro Asn Val Gly Lys Ser Ser Leu Phe Asn Arg Leu Cys Lys Arg Ser  
                           20                          25                          30  
 Leu Ala Ile Val Asn Ser Gln Glu Gly Thr Thr Arg Asp Arg Leu Tyr  
                           35                          40                          45  
 Gly Glu Leu His Ala Phe Gly Val Pro Ala Gln Val Ile Asp Thr Gly  
                           50                          55                          60  
 Gly Val Asp His Asn Ser Glu Asp Tyr Phe Gln Lys His Ile Tyr Asn  
 65                          70                          75                          80  
 Gln Ala Leu Thr Gly Ala Lys Glu Ala Asp Val Leu Leu Leu Val Ile  
                           85                          90                          95  
 Asp Ile Arg Cys Gly Ile Thr Glu Glu Asp Ala His Leu Ala Lys Leu  
                           100                          105                          110  
 Leu Leu Pro Leu Lys Lys Pro Leu Ile Leu Val Ala Asn Lys Ala Asp  
                           115                          120                          125  
 Ser Arg Gln Glu Glu Leu Gln Ile His Glu Thr Tyr Lys Leu Gly Ile  
                           130                          135                          140  
 Arg Asp Ile Val Val Thr Ser Thr Ala His Asp Lys His Ile Asp Thr  
 145                          150                          155                          160  
 Leu Leu Gln Arg Ile Lys Leu Val Ala Asn Leu Pro Glu Pro Arg Glu  
                           165                          170                          175  
 Glu Glu Glu Glu Gly Leu Glu Glu Leu Ser Val Asp Glu His Glu Glu  
                           180                          185                          190  
 Ser Glu Ala Ala Leu Pro Ser Asn Thr Phe Pro Asp Phe Ser Glu Val  
                           195                          200                          205

Phe	Thr	Glu	Gly	Phe	Ser	Pro	Glu	Glu	Pro	Cys	Thr	Ile	Pro	Glu	Ser
210						215					220				
Pro	Gln	Gln	Ala	Pro	Lys	Thr	Leu	Lys	Ile	Ala	Leu	Ile	Gly	Arg	Pro
225					230					235					240
Asn	Val	Gly	Lys	Ser	Ser	Ile	Ile	Asn	Gly	Leu	Leu	Asn	Glu	Glu	Arg
				245					250					255	
Cys	Ile	Ile	Asp	Asn	Thr	Pro	Gly	Thr	Thr	Arg	Asp	Asn	Ile	Asp	Ile
			260					265					270		
Leu	Tyr	Ser	His	Lys	Asp	Arg	Gln	Tyr	Leu	Phe	Ile	Asp	Thr	Ala	Gly
		275					280					285			
Leu	Arg	Lys	Met	Lys	Ser	Val	Lys	Asn	Ser	Ile	Glu	Trp	Ile	Ser	Ser
		290				295					300				
Ser	Arg	Thr	Glu	Lys	Ala	Ile	Ser	Arg	Ala	Asp	Ile	Cys	Leu	Leu	Val
305					310					315					320
Ile	Asp	Ala	Thr	Gln	Lys	Leu	Ser	Ser	Tyr	Glu	Lys	Arg	Ile	Leu	Ser
				325					330					335	
Leu	Ile	Ser	Lys	Arg	Lys	Lys	Pro	His	Ile	Ile	Leu	Ile	Asn	Lys	Trp
			340					345					350		
Asp	Leu	Leu	Glu	Glu	Val	Arg	Met	Glu	His	Tyr	Cys	Lys	Asp	Leu	Arg
		355				360						365			
Ala	Thr	Asp	Pro	Tyr	Leu	Gly	Gln	Ala	Lys	Met	Leu	Cys	Ile	Ser	Ala
	370					375					380				
Thr	Thr	Lys	Arg	Asn	Leu	Lys	Lys	Ile	Phe	Ser	Ala	Ile	Asp	Glu	Leu
385					390					395					400
His	His	Val	Val	Ser	Asn	Lys	Val	Pro	Thr	Pro	Ile	Val	Asn	Lys	Thr
				405					410					415	
Leu	Ala	Ser	Ala	Leu	His	Arg	Asn	His	Pro	Gln	Val	Ile	Gln	Gly	Arg
			420					425					430		
Arg	Leu	Arg	Ile	Tyr	Tyr	Ala	Ile	Gln	Lys	Thr	Thr	Thr	Pro	Leu	Gln
		435				440						445			
Phe	Leu	Leu	Phe	Ile	Asn	Ala	Lys	Ser	Leu	Leu	Thr	Lys	His	Tyr	Glu
	450				455					460					
Tyr	Tyr	Leu	Lys	Asn	Thr	Leu	Lys	Ser	Ser	Phe	Asn	Leu	Tyr	Gly	Ile
465				470						475					480
Pro	Phe	Asp	Leu	Glu	Phe	Lys	Glu	Lys	Pro	Lys	Arg	His	Asn		
				485					490						

<210> 847

<211> 434

<212> PRT

<213> Chlamydia pneumoniae

<400> 847

Ser	Ala	Asn	Asn	Tyr	Gln	Lys	Asp	Pro	Arg	Ser	Tyr	Arg	Leu	Ala	Leu
1				5					10				15		
Phe	Ser	Ser	Tyr	Phe	Arg	Gly	Val	Met	Thr	Thr	Ile	Ala	Ile	Glu	Ala
			20					25					30		
Ala	Lys	Lys	Val	Leu	Ile	Lys	Leu	Arg	Asn	Ala	Gly	Tyr	Gln	Ala	Tyr
		35					40					45			
Phe	Val	Gly	Gly	Cys	Val	Arg	Asp	Met	Leu	Met	Asn	Arg	Pro	Leu	Glu
	50					55					60				
Asp	Ile	Asp	Ile	Ala	Thr	Asn	Ala	Ser	Pro	Thr	Ile	Val	Ser	Thr	Ile
65					70					75					80
Phe	Pro	Asp	Val	Ile	Ser	Ile	Gly	Val	Ala	Phe	Gly	Ile	Ile	Val	Val
			85						90					95	
Lys	Gln	Asp	Gly	Arg	Leu	Phe	Glu	Val	Ala	Thr	Phe	Arg	Ser	Asp	Gly
		100						105					110		
Glu	Tyr	Lys	Asp	Gly	Arg	His	Pro	Asp	Arg	Ile	Ile	Phe	Ser	Ser	Met
		115					120					125			
Arg	Glu	Asp	Ala	Leu	Arg	Arg	Asp	Phe	Thr	Val	Asn	Gly	Met	Tyr	Tyr
	130					135						140			

Asp	Pro	Phe	Glu	Asp	Lys	Val	Phe	Asp	Phe	Val	Glu	Gly	Thr	Arg	Asp	
145					150					155					160	
Ile	Glu	Lys	Lys	Val	Ile	Arg	Ala	Ile	Gly	His	Pro	Arg	Leu	Arg	Phe	
				165					170					175		
Ser	Glu	Asp	Lys	Leu	Arg	Ile	Leu	Arg	Ala	Ile	Arg	Phe	Ser	Ser	Ser	
			180					185					190			
Leu	Gly	Phe	Thr	Leu	Asp	Pro	Thr	Thr	Glu	Arg	Ala	Ile	Ile	Lys	Glu	
		195					200					205				
Ala	Pro	Ala	Leu	Val	Asn	Ser	Val	Ser	Pro	Glu	Arg	Ile	Trp	Gln	Glu	
	210					215					220					
Leu	Lys	Lys	Met	Leu	Lys	Arg	Gln	Pro	Tyr	Gly	Ala	Leu	Ser	Leu	Leu	
225					230					235					240	
Leu	Lys	Leu	Lys	Val	Leu	Ile	Phe	Ile	Phe	Pro	Glu	Leu	Arg	Asp	Ile	
				245					250					255		
Pro	Tyr	Ser	Leu	Leu	Arg	Thr	Thr	Ile	Glu	Phe	Ala	Arg	Lys	Phe	Asn	
			260				265						270			
Pro	Thr	His	Phe	Pro	Glu	Ile	Leu	Phe	Leu	Leu	Pro	Leu	Phe	Gln	Gly	
		275					280						285			
Val	Ser	Glu	Glu	Ala	Ala	Thr	Val	Ala	Phe	Gly	Arg	Leu	Arg	Ile	Ser	
	290					295					300					
Asn	Lys	Glu	Leu	Lys	Leu	Ile	Glu	Ser	Trp	Tyr	Glu	Ala	Leu	Pro	His	
305					310					315					320	
Phe	Gln	Asn	Gln	Ser	Gly	Asn	Arg	Val	Phe	Trp	Ala	His	Phe	Leu	Ala	
				325					330					335		
Ser	Pro	Thr	Ala	Pro	Leu	Phe	Leu	Glu	Leu	Phe	Ser	Ala	Leu	Gln	Lys	
			340					345					350			
Asp	Pro	Ser	Arg	Gln	Gln	His	Phe	Ile	Ser	Arg	Val	Gln	Glu	Leu	Glu	
		355					360					365				
Ser	Arg	Leu	Glu	Gln	Phe	Ile	Leu	Arg	Ile	Lys	Thr	Ser	Ser	Pro	Val	
	370					375					380					
Val	Ser	Ala	Pro	Asp	Leu	Ile	Ala	Lys	Gly	Ile	Ser	Pro	Gly	Arg	Leu	
385					390					395					400	
Leu	Gly	Asp	Leu	Leu	Arg	Glu	Ala	Glu	Ile	Leu	Ser	Ile	Glu	Asn	Glu	
				405					410					415		
Cys	Leu	Asp	Lys	Glu	Lys	Ile	Leu	Leu	Leu	Leu	Gln	Glu	Lys	Gly	Phe	
			420					425					430			
Trp	Lys															

<210> 848  
 <211> 424  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 848

Arg	Glu	His	Met	Asn	Lys	Lys	Asn	Leu	Thr	Ile	Cys	Ser	Phe	Cys	Gly	
1				5					10					15		
Arg	Ser	Glu	Lys	Asp	Val	Glu	Lys	Leu	Ile	Ala	Gly	Pro	Ser	Val	Tyr	
			20					25					30			
Ile	Cys	Asp	Tyr	Cys	Ile	Lys	Leu	Cys	Ser	Gly	Ile	Leu	Asp	Lys	Lys	
		35					40					45				
Pro	Ser	Ser	Thr	Ile	Ser	Ser	Ala	Pro	Val	Ser	Glu	Thr	Pro	Ser	Gln	
		50				55					60					
Pro	Ser	Asp	Leu	Arg	Val	Leu	Thr	Pro	Lys	Glu	Ile	Lys	Lys	His	Ile	
65					70					75					80	
Asp	Glu	Tyr	Val	Ile	Gly	Gln	Glu	Arg	Ala	Lys	Lys	Thr	Ile	Ala	Val	
			85					90						95		
Ala	Val	Tyr	Asn	His	Tyr	Lys	Arg	Ile	Arg	Ala	Leu	Leu	His	Asn	Lys	
			100					105					110			
Gln	Val	Ser	Tyr	Gly	Lys	Ser	Asn	Val	Leu	Leu	Leu	Gly	Pro	Thr	Gly	
			115					120					125			

Ser Gly Lys Thr Leu Ile Ala Lys Thr Leu Ala Lys Ile Leu Asp Val  
 130 135 140  
 Pro Phe Thr Ile Ala Asp Ala Thr Thr Leu Thr Glu Ala Gly Tyr Val  
 145 150 155 160  
 Gly Glu Asp Val Glu Asn Ile Val Leu Arg Leu Leu Gln Ala Ala Asp  
 165 170 175  
 Tyr Asp Val Ala Arg Ala Glu Arg Gly Ile Ile Tyr Ile Asp Glu Ile  
 180 185 190  
 Asp Lys Ile Gly Arg Thr Thr Ala Asn Val Ser Ile Thr Arg Asp Val  
 195 200 205  
 Ser Gly Glu Gly Val Gln Gln Ala Leu Leu Lys Ile Val Glu Gly Thr  
 210 215 220  
 Thr Ala Asn Val Pro Pro Lys Gly Gly Arg Lys His Pro Asn Gln Glu  
 225 230 235 240  
 Tyr Ile Arg Val Asn Thr Glu Asn Ile Leu Phe Ile Val Gly Gly Ala  
 245 250 255  
 Phe Val Asn Leu Asp Lys Ile Ile Ala Lys Arg Leu Gly Lys Thr Thr  
 260 265 270  
 Ile Gly Phe Ser Asp Asp Gln Ala Asp Leu Ser Gln Lys Thr Arg Asp  
 275 280 285  
 His Leu Leu Ala Lys Val Glu Thr Glu Asp Leu Ile Ala Phe Gly Met  
 290 295 300  
 Ile Pro Glu Phe Val Gly Arg Phe Asn Cys Ile Val Asn Cys Glu Glu  
 305 310 315 320  
 Leu Ser Leu Asp Glu Leu Val Ala Ile Leu Thr Glu Pro Thr Asn Ala  
 325 330 335  
 Ile Val Lys Gln Tyr Met Glu Leu Phe Ala Glu Glu Asn Val Lys Leu  
 340 345 350  
 Val Phe Lys Lys Glu Ala Leu Tyr Ala Ile Ala Lys Lys Ala Lys Gln  
 355 360 365  
 Ala Lys Thr Gly Ala Arg Ala Leu Gly Met Ile Leu Glu Asn Leu Leu  
 370 375 380  
 Arg Asp Leu Met Phe Glu Ile Pro Ser Asp Pro Thr Val Glu Ala Ile  
 385 390 395 400  
 His Ile Gln Glu Asp Thr Ile Ala Glu Asn Lys Ala Pro Ile Ile Ile  
 405 410 415  
 Arg Arg Thr Pro Glu Ala Ile Ala  
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<210> 849  
 <211> 211  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 849  
 Lys Leu Phe Asp Glu Glu Thr Gln Met Thr Leu Val Pro Tyr Val Val  
 1 5 10 15  
 Glu Asp Thr Gly Arg Gly Glu Arg Ala Met Asp Ile Tyr Ser Arg Leu  
 20 25 30  
 Leu Lys Asp Arg Ile Val Met Ile Gly Gln Glu Ile Thr Glu Pro Leu  
 35 40 45  
 Ala Asn Thr Val Ile Ala Gln Leu Leu Phe Leu Met Ser Glu Asp Pro  
 50 55 60  
 Lys Lys Asp Ile Gln Ile Phe Ile Asn Ser Pro Gly Gly Tyr Ile Thr  
 65 70 75 80  
 Ala Gly Leu Ala Ile Tyr Asp Thr Ile Arg Phe Leu Gly Cys Asp Val  
 85 90 95  
 Asn Thr Tyr Cys Ile Gly Gln Ala Ala Ser Met Gly Ala Leu Leu Leu  
 100 105 110  
 Ser Ala Gly Thr Lys Gly Lys Arg His Ala Leu Pro His Ser Arg Met  
 115 120 125

Met	Ile	His	Gln	Pro	Ser	Gly	Gly	Ile	Ile	Gly	Thr	Ser	Ala	Asp	Ile
130						135					140				
Gln	Leu	Gln	Ala	Ala	Glu	Ile	Leu	Thr	Leu	Lys	Lys	His	Leu	Ala	Asn
145					150					155					160
Ile	Leu	Ser	Glu	Cys	Thr	Gly	Gln	Pro	Val	Glu	Lys	Ile	Ile	Glu	Asp
				165					170					175	
Ser	Glu	Arg	Asp	Phe	Phe	Met	Gly	Ala	Glu	Glu	Ala	Ile	Ser	Tyr	Gly
			180					185					190		
Leu	Ile	Asp	Lys	Val	Val	Thr	Ser	Ala	Lys	Glu	Thr	Asn	Lys	Asp	Thr
		195					200					205			
Ser	Ser	Thr													
210															

<210> 850

<211> 460

<212> PRT

<213> Chlamydia pneumoniae

<400> 850

Val	Gln	Ala	Ser	Ser	Pro	Ala	Phe	Pro	Phe	Lys	Ser	Asn	Lys	Lys	Gly
1				5					10					15	
Cys	Leu	Val	Pro	Arg	Ser	Leu	Ser	Asn	Glu	Gln	Phe	Ser	Val	Asp	Leu
			20					25					30		
Glu	Glu	Ser	Pro	Gly	Cys	Ile	Val	Ser	Ala	Leu	Val	Lys	Val	Ser	Pro
		35				40						45			
Glu	Val	Leu	Asn	Lys	Leu	Asn	Lys	Gln	Ala	Leu	Lys	Lys	Ile	Lys	Lys
	50					55					60				
Glu	Ile	Thr	Leu	Pro	Gly	Phe	Arg	Lys	Gly	Lys	Ala	Pro	Asp	Asp	Val
65					70					75					80
Ile	Ala	Ser	Arg	Tyr	Pro	Thr	Asn	Val	Arg	Lys	Glu	Leu	Gly	Glu	Leu
			85					90					95		
Val	Thr	Gln	Asp	Ala	Tyr	His	Ala	Leu	Ser	Thr	Val	Gly	Asp	Arg	Arg
			100					105					110		
Pro	Leu	Ser	Pro	Lys	Ala	Val	Arg	Ser	Asn	Ser	Ile	Thr	Gln	Phe	Asp
		115					120					125			
Leu	Gln	Glu	Gly	Ala	Lys	Val	Glu	Phe	Ser	Tyr	Glu	Ala	Phe	Pro	Ala
		130				135					140				
Ile	Ser	Asp	Leu	Pro	Trp	Glu	Asn	Leu	Ser	Leu	Pro	Gln	Glu	Glu	Ala
145					150					155					160
Ala	Ser	Glu	Ile	Ser	Asp	Ser	Asp	Ile	Glu	Lys	Gly	Leu	Thr	Asn	Ile
				165					170					175	
Gly	Met	Phe	Phe	Ala	Thr	Lys	Thr	Pro	Val	Glu	Arg	Pro	Ser	Gln	Glu
		180						185					190		
Gly	Asp	Phe	Ile	Ser	Ile	Ser	Leu	His	Val	Ser	Lys	Ser	Asn	Asp	Glu
		195				200						205			
Asn	Ala	Ser	Ser	Ala	Ala	Ile	Phe	Glu	Asn	Lys	Tyr	Phe	Lys	Leu	Ser
	210					215					220				
Glu	Glu	Glu	Met	Thr	Asp	Ala	Phe	Lys	Glu	Lys	Phe	Leu	Gly	Ile	Ser
225					230					235					240
Thr	Gly	His	Arg	Val	Val	Glu	Thr	Ile	Thr	Ser	Pro	Glu	Ile	Gln	Ser
				245					250					255	
Phe	Leu	Arg	Gly	Asp	Thr	Leu	Thr	Phe	Thr	Val	Asn	Ala	Val	Ile	Glu
			260					265					270		
Val	Ser	Ile	Pro	Glu	Ile	Asp	Asp	Glu	Lys	Ala	Arg	Gln	Leu	Gln	Ala
		275					280					285			
Glu	Ser	Leu	Asp	Asp	Leu	Lys	Ala	Lys	Leu	Arg	Ile	Gln	Leu	Glu	Lys
		290				295					300				
Gln	Ala	Lys	Asp	Lys	Gln	Leu	Gln	Lys	Arg	Phe	Ser	Glu	Ala	Glu	Asp
305					310					315					320
Ala	Leu	Ala	Met	Leu	Val	Asp	Phe	Glu	Leu	Pro	Thr	Ser	Leu	Leu	Glu
				325					330					335	

Glu Arg Ile Ser Leu Ile Thr Arg Glu Lys Leu Leu Asn Ala Arg Leu  
 340 345 350  
 Ile Gln Tyr Cys Ser Asp Glu Glu Leu Glu Lys Arg Lys Ser Glu Leu  
 355 360 365  
 Ile Lys Glu Ala Glu Glu Asp Ala Thr Lys Ala Leu Lys Leu Leu Phe  
 370 375 380  
 Leu Thr His Lys Ile Phe Ser Asp Glu Lys Leu Thr Ile Ser Arg Glu  
 385 390 395 400  
 Glu Leu Gln Tyr Met Met Asp Val Cys Ser Arg Glu Arg Phe Gly Gln  
 405 410 415  
 Gln Pro Pro Lys Asp Ile Ser Asn Asp Thr Leu Gln Glu Leu Val Met  
 420 425 430  
 Ser Ala Arg Asp Arg Leu Thr Tyr Ser Lys Ala Ile Glu His Val Leu  
 435 440 445  
 Arg Lys Ala Glu Leu Leu Ala Ser Thr Pro Ser Ala  
 450 455 460

<210> 851  
 <211> 1178  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 851  
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 Arg Lys Leu Arg Arg Asp Phe Ser Ala Asn Ile Leu Gln Asp Gly Lys  
 20 25 30  
 Lys Leu Phe Glu Gln Gly Ala Val Ile Asp Ala Lys Ile Leu Ser Met  
 35 40 45  
 Asn Gly Glu Thr Val Cys Ile Ser Ala Gln Val Arg Gly Leu Tyr Asp  
 50 55 60  
 Asn Ile Tyr Glu Cys Glu Ile Glu Val Asp Arg Ser Glu Ser Asp Thr  
 65 70 75 80  
 Val Asp Ser Asn Cys Asp Cys Ser Tyr Asn Tyr Asp Cys Gln His Ile  
 85 90 95  
 Val Ala Leu Leu Phe Tyr Leu Glu Gln Tyr Phe Asn Glu Met Val Val  
 100 105 110  
 Ala Tyr Ala Arg Ser Ala Asp Leu Glu Thr Asp His Glu Ile Asn Glu  
 115 120 125  
 Glu Val Lys Lys Glu Leu Lys Glu Thr Phe Val Ala Ala Ala Thr Lys  
 130 135 140  
 Glu Glu Glu Arg Lys Asp Arg Glu His Gln Lys Glu Ile Leu Arg Glu  
 145 150 155 160  
 Tyr Val His Ala Ala Asn Ala Leu Ser Ala Asn Pro Phe Phe Leu Pro  
 165 170 175  
 Leu Glu Tyr Leu Glu Lys Asp Ser Ala Glu Leu Ala Val Leu Phe Val  
 180 185 190  
 Ser Val Asn Glu Asp Thr Phe Ala Pro Ala Asn Gln Pro Ile Glu Phe  
 195 200 205  
 Gln Leu Val Leu Arg Leu Pro Cys Arg Ser Lys Pro Phe Tyr Ile Ser  
 210 215 220  
 Asn Ile Arg Thr Phe Leu Glu Gly Val Leu Tyr Gln Glu Pro Ile Val  
 225 230 235 240  
 Leu Asn Gly Arg Arg Phe Phe Phe Thr Met Gln Ser Phe Asn Ala Ser  
 245 250 255  
 Asp Arg Lys Leu Ile Asp Leu Leu Ile Arg Tyr Val Arg Tyr Pro Asn  
 260 265 270  
 His Thr Thr Glu Glu Lys Leu Leu Lys Ser Ala Tyr Leu Met Pro Pro  
 275 280 285  
 Ala Leu Gly Val Ile Leu Ala Lys Met Phe Glu His Gln Leu Ala Asp  
 290 295 300

Arg	Gly	Gly	Gly	Ser	Leu	Gly	Glu	Lys	Glu	Ser	Phe	Ser	Gly	Leu	Phe	305	310	315	320
Cys	Gly	Asn	Leu	Glu	Glu	Pro	Leu	Cys	Trp	Ser	Leu	Thr	Pro	Ala	Lys	325	330	335	
Met	Lys	Phe	Asn	Leu	Asp	Phe	Phe	Asp	Met	Pro	Tyr	Lys	Ala	Leu	Leu	340	345	350	
Met	Thr	Pro	Val	Ile	Leu	Val	Asp	Asp	Asp	Glu	Val	Gln	Pro	Glu	Gln	355	360	365	
Thr	Met	Leu	Leu	Glu	Ser	Asp	Ala	Pro	Gly	Ile	Ile	His	His	Phe	Val	370	375	380	
Tyr	His	Arg	Phe	Ser	Pro	Gln	Ile	Lys	Arg	Ala	His	Leu	Arg	Ser	Phe	385	390	395	400
Ser	Arg	Leu	Arg	Asp	Ile	Ala	Ile	Pro	Glu	Ala	Leu	Phe	Gly	Ser	Phe	405	410	415	
Arg	Glu	Asn	Ala	Leu	Pro	Val	Phe	Gln	Glu	Tyr	Ala	Glu	Ile	Ala	Asn	420	425	430	
Val	His	Leu	Leu	Asn	Ser	Phe	Val	Thr	Leu	Pro	Tyr	Val	Asp	Glu	Val	435	440	445	
Arg	Ala	Ile	Cys	Asp	Met	Ser	Tyr	Leu	Asp	Gly	Glu	Leu	Glu	Ala	Lys	450	455	460	
Leu	His	Phe	Leu	Tyr	Gly	Ser	Leu	Arg	Val	Pro	Ala	Ala	Ser	Leu	Ala	465	470	475	480
Leu	Gln	Tyr	Gln	Asp	Val	Arg	Ala	Phe	Ile	Ser	Asp	Glu	Gly	Ile	Leu	485	490	495	
Ala	Arg	Asn	Leu	Val	Glu	Glu	Arg	Lys	Met	Leu	Glu	Glu	Val	Phe	Ser	500	505	510	
Gly	Phe	Ile	Tyr	Asp	Glu	Arg	Asp	Gly	Ala	Phe	Arg	Val	Lys	Ser	Glu	515	520	525	
Lys	Lys	Ile	Val	Glu	Phe	Met	Thr	Glu	Thr	Ile	Pro	Ala	Asn	Gln	His	530	535	540	
Arg	Ile	Thr	Phe	Asn	Cys	Pro	Glu	Asn	Leu	Ser	Gly	Gln	Phe	Ile	Tyr	545	550	555	560
Asp	Glu	Thr	Ile	Phe	Glu	Leu	Ser	Phe	Arg	Glu	Gly	Ser	Asp	Ile	Asn	565	570	575	
Tyr	Tyr	Glu	Ala	Asp	Leu	Lys	Val	His	Gly	Leu	Leu	Lys	Gly	Val	Pro	580	585	590	
Leu	Asp	Leu	Leu	Trp	Asp	Cys	Ile	Ser	Ala	Lys	Lys	Arg	Phe	Leu	Glu	595	600	605	
Leu	Pro	Lys	Ala	Gly	Gln	Gln	Ser	Lys	Gly	Thr	Arg	Arg	Gly	Lys	Val	610	615	620	
Asn	Ser	Gly	Lys	Leu	Pro	Cys	Ile	Leu	Val	Leu	Asp	Leu	Glu	Lys	Ile	625	630	635	640
Ala	Pro	Val	Val	Gln	Ile	Phe	Asn	Glu	Ile	Gly	Phe	Lys	Val	Leu	Asp	645	650	655	
Asp	Leu	Val	Gln	Lys	Cys	Pro	Leu	Trp	Ser	Leu	Thr	Gly	Ile	Ser	Leu	660	665	670	
Asp	Gln	Phe	Glu	Ala	Leu	Pro	Val	Asn	Phe	Ser	Met	Ser	Glu	Arg	Leu	675	680	685	
Ile	Glu	Ile	Gln	Lys	Gln	Ile	Arg	Gly	Glu	Ile	Glu	Phe	Asp	Phe	Gln	690	695	700	
Asp	Val	Pro	Gln	Gln	Ile	Gln	Ala	Thr	Leu	Arg	Ser	Tyr	Gln	Thr	Glu	705	710	715	720
Gly	Val	His	Trp	Leu	Glu	Arg	Leu	Arg	Lys	Met	His	Leu	Asn	Gly	Ile	725	730	735	
Leu	Ala	Asp	Asp	Met	Gly	Leu	Gly	Lys	Thr	Leu	Gln	Ala	Ile	Ile	Ala	740	745	750	
Val	Thr	Gln	Ser	Lys	Leu	Glu	Lys	Gly	Ser	Gly	Cys	Ser	Leu	Ile	Val	755	760	765	
Cys	Pro	Thr	Ser	Leu	Val	Tyr	Asn	Trp	Lys	Glu	Glu	Phe	Arg	Lys	Phe	770	775	780	



Asn	Pro	Glu	Phe	Arg	Thr	Leu	Val	Ile	Asp	Gly	Val	Pro	Ser	Gln	Arg	
785					790					795					800	
Arg	Lys	Gln	Leu	Thr	Ala	Leu	Ala	Asp	Arg	Asp	Val	Ala	Ile	Thr	Ser	
				805					810						815	
Tyr	Asn	Leu	Leu	Gln	Lys	Asp	Val	Glu	Leu	Tyr	Lys	Ser	Phe	Arg	Phe	
		820						825					830			
Asp	Tyr	Val	Val	Leu	Asp	Glu	Ala	His	His	Ile	Lys	Asn	Arg	Thr	Thr	
	835					840						845				
Arg	Asn	Ala	Lys	Ser	Val	Lys	Met	Ile	Gln	Ser	Asp	His	Arg	Leu	Ile	
	850					855					860					
Leu	Thr	Gly	Thr	Pro	Ile	Glu	Asn	Ser	Leu	Glu	Glu	Leu	Trp	Ser	Leu	
865				870						875					880	
Phe	Asp	Phe	Leu	Met	Pro	Gly	Leu	Leu	Ser	Ser	Tyr	Asp	Arg	Phe	Val	
			885						890					895		
Gly	Lys	Tyr	Ile	Arg	Thr	Gly	Asn	Tyr	Met	Gly	Asn	Lys	Ala	Asp	Asn	
			900					905					910			
Met	Val	Ala	Leu	Lys	Lys	Lys	Val	Ser	Pro	Phe	Ile	Leu	Arg	Arg	Met	
	915						920					925				
Lys	Glu	Asp	Val	Leu	Lys	Asp	Leu	Pro	Pro	Val	Ser	Glu	Ile	Leu	Tyr	
	930					935					940					
His	Cys	His	Leu	Thr	Glu	Ser	Gln	Lys	Glu	Leu	Tyr	Gln	Ser	Tyr	Ala	
945				950						955					960	
Ala	Ser	Ala	Lys	Gln	Glu	Leu	Ser	Arg	Leu	Val	Lys	Gln	Glu	Gly	Phe	
			965					970						975		
Glu	Arg	Ile	His	Ile	His	Val	Leu	Ala	Thr	Leu	Thr	Arg	Leu	Lys	Gln	
		980					985						990			
Ile	Cys	Cys	His	Pro	Ala	Ile	Phe	Ala	Lys	Asp	Ala	Pro	Glu	Pro	Gly	
	995						1000					1005				
Asp	Ser	Ala	Lys	Tyr	Asp	Met	Leu	Met	Asp	Leu	Leu	Ser	Ser	Leu	Val	
	1010					1015					1020					
Asp	Ser	Gly	His	Lys	Thr	Val	Val	Phe	Ser	Gln	Tyr	Thr	Lys	Met	Leu	
1025				1030						1035					1040	
Gly	Ile	Ile	Lys	Lys	Asp	Leu	Glu	Ser	Arg	Gly	Ile	Pro	Phe	Val	Tyr	
			1045						1050					1055		
Leu	Asp	Gly	Ser	Thr	Lys	Asn	Arg	Leu	Asp	Leu	Val	Asn	Gln	Phe	Asn	
		1060					1065						1070			
Glu	Asp	Pro	Ser	Leu	Leu	Val	Phe	Leu	Ile	Ser	Leu	Lys	Ala	Gly	Gly	
	1075					1080						1085				
Thr	Gly	Leu	Asn	Leu	Val	Gly	Ala	Asp	Thr	Val	Ile	His	Tyr	Asp	Met	
	1090					1095					1100					
Trp	Trp	Asn	Pro	Ala	Val	Glu	Asn	Gln	Ala	Thr	Asp	Arg	Val	His	Arg	
1105			1110						1115						1120	
Ile	Gly	Gln	Ser	Arg	Ser	Val	Ser	Ser	Tyr	Lys	Leu	Val	Thr	Leu	Asn	
			1125						1130					1135		
Thr	Ile	Glu	Glu	Lys	Ile	Leu	Thr	Leu	Gln	Asn	Arg	Lys	Lys	Ser	Leu	
		1140					1145						1150			
Val	Lys	Lys	Val	Ile	Asn	Ser	Asp	Glu	Val	Val	Ser	Lys	Leu	Thr		
	1155					1160						1165				
Trp	Glu	Glu	Val	Leu	Glu	Leu	Leu	Gln	Ile							
	1170					1175										

<210> 852

<211> 379

<212> PRT

<213> Chlamydia pneumoniae

<400> 852

Leu	Gly	Lys	Lys	Tyr	Trp	Asn	Cys	Cys	Arg	Tyr	Asp	Phe	Met	Ser	Pro	
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His	Arg	Asn	Leu	Phe	Lys	Leu	Lys	Asn	Phe	Ser	Asn	Arg	Leu	Tyr	Asn	
		20						25						30		

Arg	Ala	Leu	Gly	Arg	Phe	Asp	Lys	Val	Phe	Asn	Phe	Phe	Ser	Gly	Asn
	35						40					45			
Val	Gly	Ile	Asp	Leu	Gly	Thr	Ala	Asn	Thr	Leu	Val	Tyr	Val	Arg	Gly
	50					55					60				
Arg	Gly	Ile	Val	Leu	Ser	Glu	Pro	Ser	Val	Val	Ala	Val	Asp	Ala	Gln
65					70					75					80
Thr	His	Ala	Val	Leu	Ala	Val	Gly	His	Lys	Ala	Lys	Ala	Met	Leu	Gly
			85						90					95	
Lys	Thr	Pro	Arg	Lys	Ile	Met	Ala	Val	Arg	Pro	Met	Lys	Asp	Gly	Val
			100					105					110		
Ile	Ala	Asp	Phe	Glu	Ile	Ala	Glu	Gly	Met	Leu	Lys	Ala	Leu	Ile	Lys
	115						120					125			
Arg	Val	Thr	Pro	Ser	Arg	Ser	Val	Phe	Arg	Pro	Arg	Ile	Leu	Ile	Ala
	130					135					140				
Val	Pro	Ser	Gly	Ile	Thr	Gly	Val	Glu	Lys	Arg	Ala	Val	Glu	Asp	Ser
145					150					155					160
Ala	Leu	His	Ala	Gly	Ala	Gln	Glu	Val	Ile	Leu	Ile	Glu	Glu	Pro	Met
				165				170						175	
Ala	Ala	Ala	Ile	Gly	Val	Asp	Leu	Pro	Val	His	Glu	Pro	Ala	Ala	Ser
			180					185					190		
Met	Ile	Ile	Asp	Ile	Gly	Gly	Gly	Thr	Thr	Glu	Ile	Ala	Ile	Ile	Ser
	195						200				205				
Leu	Gly	Gly	Ile	Val	Glu	Ser	Arg	Ser	Leu	Arg	Ile	Ala	Gly	Asp	Glu
	210					215					220				
Phe	Asp	Glu	Cys	Ile	Ile	Asn	Tyr	Met	Arg	Arg	Thr	Tyr	Asn	Leu	Met
225					230					235					240
Ile	Gly	Pro	Arg	Thr	Ala	Glu	Glu	Ile	Lys	Ile	Thr	Ile	Gly	Ser	Ala
				245					250					255	
Tyr	Pro	Leu	Gly	Asp	Gln	Glu	Leu	Glu	Met	Glu	Val	Arg	Gly	Arg	Asp
			260					265						270	
Gln	Val	Ala	Gly	Leu	Pro	Ile	Thr	Lys	Arg	Ile	Asn	Ser	Val	Glu	Ile
	275						280					285			
Arg	Glu	Cys	Leu	Ala	Glu	Pro	Ile	Gln	Gln	Ile	Ile	Glu	Cys	Val	Arg
	290					295					300				
Leu	Thr	Leu	Glu	Lys	Cys	Pro	Pro	Glu	Leu	Ser	Ala	Asp	Leu	Val	Glu
305					310					315					320
Arg	Gly	Met	Val	Leu	Ala	Gly	Gly	Gly	Ala	Leu	Ile	Lys	Gly	Leu	Asp
				325					330					335	
Lys	Ala	Leu	Ser	Lys	Asn	Thr	Gly	Leu	Ser	Val	Ile	Thr	Ala	Pro	His
			340					345					350		
Pro	Leu	Leu	Ala	Val	Cys	Leu	Gly	Thr	Gly	Lys	Ala	Leu	Glu	His	Leu
		355					360					365			
Asp	Gln	Phe	Lys	Lys	Arg	Lys	Gly	Asn	Leu	Val					
	370						375								

<210> 853

<211> 606

<212> PRT

<213> Chlamydia pneumoniae

<400> 853

Arg	Glu	Phe	Gly	Ile	Val	Met	Val	Trp	Ser	Thr	Asn	Ile	Lys	His	Glu
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Gly	Leu	Lys	Ser	Trp	Ile	Asp	Glu	Val	Ala	Lys	Leu	Thr	Thr	Pro	Lys
			20					25					30		
Asp	Ile	Arg	Leu	Cys	Asp	Gly	Ser	Asp	Thr	Glu	Tyr	Asp	Glu	Leu	Cys
		35					40					45			
Thr	Leu	Met	Glu	Ser	Thr	Gly	Thr	Met	Ile	Arg	Leu	Asn	Pro	Glu	Phe
	50					55					60				
His	Pro	Asn	Cys	Phe	Leu	Val	Arg	Ser	Ser	Ala	Asp	Asp	Val	Ala	Arg
65					70					75					80

Val	Glu	Gln	Phe	Thr	Phe	Ile	Cys	Thr	Ser	Thr	Glu	Ala	Glu	Ala	Gly			
				85					90					95				
Pro	Thr	Asn	Asn	Trp	Arg	Asp	Pro	Gln	Glu	Met	Arg	Arg	Glu	Leu	His			
			100					105					110					
Gln	Leu	Phe	Arg	Gly	Cys	Met	Gln	Gly	Arg	Thr	Leu	Tyr	Ile	Val	Pro			
		115					120					125						
Phe	Cys	Met	Gly	Pro	Leu	Asp	Ser	Pro	Phe	Ser	Ile	Val	Gly	Val	Glu			
	130					135					140							
Leu	Thr	Asp	Ser	Pro	Tyr	Val	Val	Cys	Ser	Met	Lys	Ile	Met	Thr	Arg			
145					150					155					160			
Met	Gly	Asp	Asp	Val	Leu	Arg	Ser	Leu	Gly	Thr	Ser	Gly	Lys	Phe	Leu			
				165					170					175				
Lys	Cys	Leu	His	Ser	Val	Gly	Lys	Pro	Leu	Ser	Pro	Gly	Glu	Ala	Asp			
			180					185					190					
Val	Ser	Trp	Pro	Cys	Asn	Pro	Lys	Ser	Met	Arg	Ile	Val	His	Phe	Gln			
		195					200					205						
Asp	Asp	Ser	Ser	Val	Met	Ser	Phe	Gly	Ser	Gly	Tyr	Gly	Gly	Asn	Ala			
	210					215					220							
Leu	Leu	Gly	Lys	Lys	Cys	Val	Ala	Leu	Arg	Leu	Ala	Ser	Tyr	Met	Ala			
225					230					235					240			
Lys	Ser	Gln	Gly	Trp	Leu	Ala	Glu	His	Met	Leu	Ile	Ile	Gly	Ile	Thr			
			245						250					255				
Asn	Pro	Glu	Gly	Lys	Lys	Lys	Tyr	Phe	Ser	Ala	Ser	Phe	Pro	Ser	Ala			
		260						265					270					
Cys	Gly	Lys	Thr	Asn	Leu	Ala	Met	Leu	Met	Pro	Lys	Leu	Pro	Gly	Trp			
		275					280					285						
Lys	Ile	Glu	Cys	Ile	Gly	Asp	Asp	Ile	Ala	Trp	Ile	Arg	Pro	Gly	Arg			
	290					295					300							
Asp	Gly	Arg	Leu	Tyr	Ala	Val	Asn	Pro	Glu	Tyr	Gly	Phe	Phe	Gly	Val			
305					310				315						320			
Ala	Pro	Gly	Thr	Ser	Glu	Arg	Thr	Asn	Pro	Asn	Ala	Leu	Ala	Thr	Cys			
				325					330					335				
Arg	Ser	Asn	Ser	Ile	Phe	Thr	Asn	Val	Ala	Leu	Thr	Ala	Asp	Gly	Asp			
		340						345					350					
Val	Trp	Trp	Glu	Gly	Leu	Thr	Glu	Gln	Pro	Pro	Glu	Pro	Leu	Thr	Asp			
		355					360					365						
Trp	Leu	Gly	Lys	Pro	Trp	Lys	Pro	Gly	Gly	Ser	Pro	Ala	Ala	His	Pro			
	370					375					380							
Asn	Ser	Arg	Phe	Thr	Ala	Pro	Leu	Arg	Gln	Cys	Pro	Ser	Leu	Asp	Pro			
385					390					395					400			
Glu	Trp	Asn	Ser	Pro	Gln	Gly	Val	Pro	Leu	Asp	Ala	Ile	Ile	Phe	Gly			
				405					410					415				
Gly	Arg	Arg	Ser	Glu	Thr	Ile	Pro	Leu	Val	Tyr	Glu	Ala	Leu	Ser	Trp			
			420					425					430					
Glu	His	Gly	Val	Thr	Ile	Gly	Ala	Gly	Met	Ser	Ser	Thr	Thr	Thr	Ala			
	435						440					445						
Ala	Ile	Val	Gly	Gln	Leu	Gly	Lys	Leu	Arg	His	Asp	Pro	Phe	Ala	Met			
	450					455					460							
Leu	Pro	Phe	Cys	Gly	Tyr	Asn	Met	Ala	Tyr	Tyr	Phe	Gln	His	Trp	Leu			
465					470					475					480			
Ser	Phe	Ala	Glu	Asn	Arg	Ser	Leu	Lys	Leu	Pro	Lys	Ile	Phe	Gly	Val			
				485					490					495				
Asn	Trp	Phe	Arg	Lys	Asn	Asn	Gln	Gly	Glu	Phe	Leu	Trp	Pro	Gly	Phe			
		500						505					510					
Ser	Glu	Asn	Leu	Arg	Val	Leu	Glu	Trp	Ile	Phe	Gln	Arg	Thr	Asp	Gly			
		515					520					525						
Leu	Glu	Asp	Ile	Ala	Glu	Arg	Thr	Pro	Ile	Gly	Tyr	Leu	Pro	Asn	Ile			
	530					535					540							
Gln	Lys	Phe	Asn	Leu	Asn	Gly	Leu	Asn	Leu	Asp	Leu	Gln	Thr	Val	Gln			
545					550					555					560			

Glu	Leu	Phe	Ser	Val	Asp	Ala	Glu	Gly	Trp	Leu	Ala	Glu	Val	Glu	Asn
				565					570					575	
Ile	Gly	Glu	Tyr	Leu	Lys	Ile	Phe	Gly	Ser	Asp	Cys	Pro	Gln	Gln	Ile
			580					585					590		
Thr	Asp	Glu	Leu	Leu	Arg	Ile	Lys	Ser	Glu	Leu	Lys	Glu	Lys		
		595					600					605			

<210> 854

<211> 780

<212> PRT

<213> Chlamydia pneumoniae

<400> 854

Ile	Lys	Leu	Arg	Ile	Ile	Asp	Tyr	Tyr	Tyr	Leu	Ile	Asn	Thr	Val	Thr
1				5					10					15	
Leu	Gln	Pro	Ser	Tyr	Ile	Asn	Phe	Thr	Pro	Asn	Val	Thr	Thr	Ala	Leu
			20					25					30		
Ser	Gly	Gly	Lys	Ile	Asp	Thr	Ser	Ala	Ile	Glu	Leu	Ser	Cys	Ser	Ala
		35					40					45			
Leu	Phe	Phe	Gln	Glu	Leu	Gln	Asp	Lys	Ala	Gln	Gly	Leu	Lys	His	Ala
	50					55					60				
Leu	Gly	Leu	Val	Gln	Glu	Leu	Ser	Ala	Glu	Ala	Leu	Arg	Pro	Ala	Gln
65					70					75					80
Val	Gln	Thr	Ser	Ile	Ser	Tyr	Leu	Pro	Thr	Glu	Glu	Ser	Ser	Arg	Pro
				85					90					95	
Gly	Ile	Ser	Ala	Gly	Ile	Ile	Asp	Arg	Thr	Met	Pro	Thr	Phe	Thr	Asp
			100					105					110		
Asp	Glu	Val	Lys	Ala	Ile	Leu	Gln	Asn	Pro	Asn	Phe	Glu	Thr	Ser	Lys
		115					120					125			
Ile	Phe	Val	Glu	Gly	Leu	Asp	Lys	Val	Phe	Lys	Ser	Tyr	Leu	Asp	Ser
	130					135					140				
Val	Thr	Pro	Pro	Glu	Gly	Ile	Asp	Pro	Ser	Asn	Pro	Glu	Ser	Ala	Ile
145					150					155					160
Ile	Leu	Asn	Tyr	Ile	Thr	Leu	Leu	Asn	Asn	Leu	Lys	Pro	Lys	Phe	Ala
				165					170					175	
Ala	Gly	Ser	Thr	Pro	Thr	Asp	Ala	Asp	Tyr	Asn	Ala	Leu	Tyr	Ala	Leu
			180					185					190		
Pro	Gly	Asp	Phe	Val	Lys	Glu	Ile	Glu	Ala	Leu	Lys	Ala	Ala	Asp	Ala
		195					200					205			
Pro	Pro	Lys	Ser	Lys	Val	His	Ala	Phe	Trp	Gln	Glu	Ile	Met	Thr	Ile
	210					215					220				
Tyr	Asn	Asn	Met	Gln	Val	Leu	Ser	Tyr	Pro	Val	Thr	Asp	Tyr	Leu	Asn
225					230					235					240
Val	Gln	Ile	Ala	Asp	Leu	Ser	Leu	Asn	Ile	Thr	Ala	Ala	Gln	Glu	Val
				245					250					255	
Gln	Gln	Tyr	Leu	Lys	Asn	Phe	Tyr	Ser	Ile	Leu	Lys	Asp	Ile	Leu	Asn
			260					265					270		
Pro	Gly	Trp	Thr	Asp	Pro	Gln	Ala	Thr	His	Tyr	Pro	Ala	Asp	Ala	Glu
		275					280					285			
Tyr	Asn	Ala	Arg	Asp	Ala	Gly	Val	Ile	Gln	Ser	Leu	Leu	Asn	Leu	Ser
	290					295					300				
Gly	Asn	Tyr	Arg	Gln	Leu	Thr	Glu	Asn	Met	Leu	Pro	Asn	Thr	Asp	Thr
305					310					315					320
Ser	Leu	Pro	Gln	Glu	Ile	Ile	Ala	Gln	Ile	Arg	Ser	Phe	Gln	Asn	Gly
				325					330					335	
Val	Asn	Gly	Thr	Ile	Ile	Ala	Ser	Asn	Thr	Leu	Leu	Pro	Thr	Thr	Met
			340					345					350		
Arg	Leu	Asp	Thr	Leu	Leu	Gly	Val	Ile	Tyr	Thr	Tyr	Gln	Cys	Cys	Ala
		355					360					365			
Thr	Ile	Phe	Gly	Met	Ser	Tyr	Gly	Thr	Ser	Thr	Pro	Ala	Lys	Gln	Asn
	370					375					380				

Tyr	Ile	Asp	Ala	Ile	Asn	Gln	Glu	Lys	Ser	Tyr	Trp	Gln	Ala	Arg	Ala	385	390	395	400
Asn	Gly	Phe	Asp	Val	Thr	Ser	Asp	Gln	Val	Phe	Asp	Gln	Phe	Ala	Thr	405	410	415	
Asn	Ile	Gln	Ser	Gly	Thr	Ser	Tyr	Arg	Gly	Ile	Asp	Leu	Phe	Lys	Asn	420	425	430	
Asn	Lys	Val	Asn	Glu	Ile	Asn	Pro	Ile	Phe	Leu	Ser	Gln	Ala	Ala	Ser	435	440	445	
Phe	Leu	Arg	Tyr	Pro	Tyr	Asn	Leu	Met	Ser	Arg	Ser	Met	Tyr	Gln	Thr	450	455	460	
Ile	Glu	Asp	Ala	Ala	Asn	Arg	Ser	Ile	Thr	Ala	Leu	Asp	Gly	Leu	Ile	465	470	475	480
Ser	Gly	Trp	Ser	Thr	Gln	Ile	Ala	Thr	Phe	Gln	Thr	Gln	Lys	Asn	Ser	485	490	495	
Leu	Asp	Pro	Ser	Leu	Leu	Lys	Tyr	Phe	Asp	Thr	Met	Lys	Ala	Asn	Lys	500	505	510	
Glu	Ser	Phe	Val	Thr	Thr	Ala	Pro	Leu	Gln	Met	Val	Tyr	Ser	Ser	Leu	515	520	525	
Met	Leu	Asp	Lys	Tyr	Leu	Pro	Thr	Gln	Gln	Asn	Val	Ile	Ala	Ser	Leu	530	535	540	
Gly	Ile	Gln	Met	Thr	Tyr	Ser	Asn	Lys	Ala	Ala	Lys	Tyr	Leu	Asn	Glu	545	550	555	560
Leu	Ile	Lys	Glu	Ile	Thr	Thr	Phe	Gln	Ser	Ala	Asp	Ile	Tyr	Tyr	Ser	565	570	575	
Leu	Ser	Ile	Tyr	Leu	Lys	Gln	Met	Asn	Leu	Gln	Ala	Val	Ala	Asp	Pro	580	585	590	
Ile	Gly	Lys	Ala	Val	Gly	Val	Leu	Asn	Asp	Glu	Lys	Thr	Arg	Ala	Met	595	600	605	
Ala	Asp	Ile	Thr	Arg	Cys	Asn	Lys	Ile	Lys	Ala	Ala	Ile	Asp	Lys	Met	610	615	620	
Leu	Val	Glu	Ile	Lys	Ala	Asp	Ala	Glu	Leu	Ser	Lys	Ser	Gln	Ile	Arg	625	630	635	640
Glu	Leu	Val	Asp	Thr	Leu	Thr	Asn	Phe	Lys	Ser	Gln	Ser	Asp	Asp	Leu	645	650	655	
Ile	Arg	Asn	Leu	Ser	Cys	Leu	Leu	Gly	Phe	Leu	Ser	Gly	Leu	Thr	Leu	660	665	670	
Lys	Ala	Val	Asn	Asp	Pro	Asn	Ala	Thr	Tyr	Glu	Ala	Phe	Thr	Ala	Glu	675	680	685	
Ile	Phe	Thr	Glu	Pro	Phe	Asn	Asn	Trp	Lys	Arg	Gln	Leu	Ala	Thr	Phe	690	695	700	
Glu	Ser	Phe	Val	Ile	Gln	Gly	Gly	Gln	Asn	Gly	Ile	Thr	Pro	Gly	Gly	705	710	715	720
Gln	Gln	Gln	Leu	Leu	Gln	Ala	Met	Glu	Ser	Ser	Gln	Gln	Asp	Phe	Ser	725	730	735	
Thr	Phe	Asn	Gln	Asn	Gln	Gln	Leu	Ala	Leu	Gln	Leu	Glu	Ser	Ser	Ala	740	745	750	
Met	Gln	Gln	Glu	Trp	Thr	Leu	Val	Ser	Ala	Ala	Leu	Ala	Leu	Leu	Asn	755	760	765	
Gln	Met	Val	Ser	Lys	Ile	Ala	Arg	Arg	Ile	Lys	Ser					770	775	780	

<210> 855

<211> 391

<212> PRT

<213> Chlamydia pneumoniae

<400> 855

Asn	Ile	Met	His	Pro	Lys	Ile	Glu	Lys	Arg	Asn	Ser	Leu	Pro	Leu	Thr	1	5	10	15
Ala	Val	Ala	Pro	Val	Phe	Glu	Glu	Ser	Tyr	His	Pro	Ser	Val	Ala	Thr	20	25	30	

Thr	Val	Asp	Tyr	Val	Asp	Ala	Thr	Thr	Leu	Ser	Arg	His	Leu	Thr	Val
	35					40					45				
Leu	Lys	Asp	Val	Ile	Lys	Glu	Ala	Arg	Asn	Leu	Asp	Leu	Gly	Lys	Ala
	50					55				60					
Phe	Leu	Thr	Ser	Met	Lys	Gln	Gly	Phe	Ile	Asn	Thr	Gly	Thr	Glu	Leu
65					70				75					80	
Ala	Ile	Ile	Gln	Ala	Ser	Leu	Ala	Asp	Gln	Ser	Ser	Arg	Glu	Ser	Arg
				85				90					95		
Lys	Lys	Glu	Glu	Lys	Ile	Phe	His	Gln	His	Leu	Gly	Lys	Ala	Ala	Pro
		100					105						110		
Gln	Ala	Ala	Thr	Ala	Thr	Ser	Gly	Val	Gln	Pro	Thr	Ala	Asp	Pro	Val
	115						120					125			
Ala	Asp	Lys	Met	Pro	Leu	Gln	Ser	Ala	Phe	Ala	Tyr	Val	Leu	Leu	Asp
	130					135				140					
Lys	Tyr	Ile	Pro	Ala	Gln	Glu	Glu	Ala	Leu	Tyr	Ala	Leu	Gly	Arg	Glu
145					150					155				160	
Leu	Asn	Leu	Ser	Gly	Tyr	Ala	Gln	Asn	Leu	Phe	Ser	Pro	Leu	Leu	Asp
				165				170						175	
Met	Ile	Lys	Ser	Phe	Asn	Ser	Ala	Pro	Ile	Asn	Tyr	Asn	Leu	Gly	Ser
		180						185					190		
Tyr	Ile	Ser	Gln	Thr	Ser	Gly	Thr	Ala	Asn	Phe	Ala	Tyr	Gly	Tyr	Glu
	195						200					205			
Met	Ile	Leu	Ser	Arg	Tyr	Asn	Asn	Glu	Val	Ser	Gln	Cys	Arg	Leu	Asp
	210					215					220				
Ile	Ala	Ser	Thr	Val	Lys	Ala	Lys	Ala	Ala	Leu	Ala	Asn	Met	Ser	Ala
225					230					235				240	
Ser	Val	Lys	Ala	Asn	Val	Ser	Leu	Thr	Asp	Ala	Gln	Lys	Lys	Gln	Ile
				245					250					255	
Glu	Asp	Ile	Ile	Ala	Ser	Tyr	Thr	Lys	Ser	Leu	Asp	Val	Ile	His	Thr
		260						265					270		
Gln	Leu	Thr	Asp	Val	Met	Thr	Asn	Leu	Ala	Ser	Ile	Thr	Phe	Val	Pro
	275						280					285			
Gly	Leu	Asn	Lys	Tyr	Asp	Pro	Ser	Tyr	Arg	Ile	Val	Gly	Gly	Asp	Leu
	290					295					300				
Ser	Ile	Ile	Ala	Leu	Gln	Asn	Asp	Glu	Lys	Val	Leu	Val	Asp	Gly	Lys
305					310					315					320
Val	Asp	Ile	Thr	Thr	Ala	Val	Asn	Glu	Gly	Gly	Leu	Leu	Asn	Phe	Phe
				325					330					335	
Thr	Thr	Val	Leu	Thr	Asp	Val	Gln	Asn	Tyr	Gly	Asp	Leu	Ala	Gln	Thr
			340					345					350		
Gln	Gln	Leu	Met	Leu	Asp	Leu	Glu	Leu	Lys	Ala	Met	Gln	Gln	Gln	Trp
		355					360					365			
Ser	Leu	Val	Ser	Ala	Ser	Leu	Lys	Leu	Leu	Asn	Gly	Met	Tyr	Thr	Thr
	370					375					380				
Val	Ile	Ser	Gly	Phe	Lys	Asn									
385					390										

<210> 856  
 <211> 348  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 856  
 Gly Pro Phe Asp Met Asn Ser Lys Met Leu Lys His Leu Arg Leu Ala  
 1 5 10 15  
 Thr Leu Ser Phe Ser Met Phe Phe Gly Ile Val Ser Ser Pro Ala Val  
 20 25 30  
 Tyr Ala Leu Gly Ala Gly Asn Pro Ala Ala Pro Val Leu Pro Gly Val  
 35 40 45  
 Asn Pro Glu Gln Thr Gly Trp Cys Ala Phe Gln Leu Cys Asn Ser Tyr  
 50 55 60

Asp	Leu	Phe	Ala	Ala	Leu	Ala	Gly	Ser	Leu	Lys	Phe	Gly	Phe	Tyr	Gly	65	70	75	80
Asp	Tyr	Val	Phe	Ser	Glu	Ser	Ala	His	Ile	Thr	Asn	Val	Pro	Val	Ile		85	90	95
Thr	Ser	Val	Thr	Thr	Ser	Gly	Thr	Gly	Thr	Thr	Pro	Thr	Ile	Thr	Ser		100	105	110
Thr	Thr	Lys	Asn	Val	Asp	Phe	Asp	Leu	Asn	Asn	Ser	Ser	Ile	Ser	Ser		115	120	125
Ser	Cys	Val	Phe	Ala	Thr	Ile	Ala	Leu	Gln	Glu	Thr	Ser	Pro	Ala	Ala		130	135	140
Ile	Pro	Leu	Leu	Asp	Ile	Ala	Phe	Thr	Ala	Arg	Val	Gly	Gly	Leu	Lys	145	150	155	160
Gln	Tyr	Tyr	Arg	Leu	Pro	Leu	Asn	Ala	Tyr	Arg	Asp	Phe	Thr	Ser	Asn		165	170	175
Pro	Leu	Asn	Ala	Glu	Ser	Glu	Val	Thr	Asp	Gly	Leu	Ile	Glu	Val	Gln		180	185	190
Ser	Asp	Tyr	Gly	Ile	Val	Trp	Gly	Leu	Ser	Leu	Gln	Lys	Val	Leu	Trp		195	200	205
Lys	Asp	Gly	Val	Ser	Phe	Val	Gly	Val	Ser	Ala	Asp	Tyr	Arg	His	Gly		210	215	220
Ser	Ser	Pro	Ile	Asn	Tyr	Ile	Ile	Val	Tyr	Asn	Lys	Ala	Asn	Pro	Glu	225	230	235	240
Ile	Tyr	Phe	Asp	Ala	Thr	Asp	Gly	Asn	Leu	Ser	Tyr	Lys	Glu	Trp	Ser		245	250	255
Ala	Ser	Ile	Gly	Ile	Ser	Thr	Tyr	Leu	Asn	Asp	Tyr	Val	Leu	Pro	Tyr		260	265	270
Ala	Ser	Val	Ser	Ile	Gly	Asn	Thr	Ser	Arg	Lys	Ala	Pro	Ser	Asp	Ser		275	280	285
Phe	Thr	Glu	Leu	Glu	Lys	Gln	Phe	Thr	Asn	Phe	Lys	Phe	Lys	Ile	Arg		290	295	300
Lys	Ile	Thr	Asn	Phe	Asp	Arg	Val	Asn	Phe	Cys	Phe	Gly	Thr	Thr	Cys	305	310	315	320
Cys	Ile	Ser	Asn	Asn	Phe	Tyr	Tyr	Ser	Val	Glu	Gly	Arg	Trp	Gly	Tyr		325	330	335
Gln	Arg	Ala	Ile	Asn	Ile	Thr	Ser	Gly	Leu	Gln	Phe						340	345	

<210> 857

<211> 336

<212> PRT

<213> Chlamydia pneumoniae

<400> 857

Gly	Leu	Met	Lys	Gln	His	Ile	Gly	Tyr	Leu	Gly	Met	Gly	Ile	Trp	Gly	1	5	10	15
Phe	Cys	Leu	Ala	Ser	Leu	Leu	Ala	Asn	Lys	Gly	Tyr	Pro	Val	Val	Ala		20	25	30
Trp	Ser	Arg	Asn	Pro	Asp	Leu	Ile	Lys	Gln	Leu	Gln	Glu	Glu	Arg	Arg		35	40	45
His	Pro	Leu	Ala	Pro	Asn	Val	Val	Ile	Ser	Pro	Asn	Leu	Ser	Phe	Thr		50	55	60
Thr	Asp	Met	Lys	Glu	Ala	Ile	His	Asn	Ala	Phe	Met	Ile	Val	Glu	Gly	65	70	75	80
Val	Thr	Ser	Ala	Gly	Ile	Arg	Pro	Val	Ala	Glu	Gln	Leu	Lys	Gln	Ile		85	90	95
Thr	Asp	Leu	Ser	Val	Pro	Phe	Val	Ile	Thr	Ser	Lys	Gly	Ile	Glu	Gln		100	105	110
Asn	Thr	Gly	Leu	Leu	Leu	Ser	Glu	Ile	Met	Leu	Glu	Val	Leu	Gly	Asp		115	120	125
Ser	Val	Thr	Pro	Tyr	Leu	Gly	Tyr	Leu	Ser	Gly	Pro	Ser	Ile	Ala	Lys	130	135	140	

Glu	Val	Leu	Asn	Gly	Ser	Pro	Cys	Ser	Val	Val	Val	Ser	Ala	Tyr	Asp
145					150				155						160
Ser	Gln	Thr	Leu	Lys	Gln	Ile	His	Glu	Ala	Phe	Ser	Leu	Pro	Thr	Phe
				165					170						175
Arg	Val	Tyr	Pro	Asn	Thr	Asp	Ile	Lys	Gly	Ala	Ala	Leu	Gly	Gly	Ala
			180					185							190
Leu	Lys	Asn	Val	Ile	Ala	Ile	Ala	Cys	Gly	Ile	Ala	Glu	Gly	Leu	Ser
		195					200					205			
Phe	Gly	Asn	Asn	Ala	Lys	Ala	Gly	Leu	Val	Thr	Arg	Gly	Leu	His	Glu
	210					215					220				
Met	Arg	Lys	Leu	Ala	Ala	Ile	Met	Asp	Cys	Lys	Pro	Glu	Thr	Leu	Asn
225					230					235					240
Gly	Leu	Ala	Gly	Leu	Gly	Asp	Leu	Cys	Val	Thr	Cys	Phe	Ser	Glu	Ser
				245				250							255
Ser	Arg	Asn	Leu	Arg	Phe	Gly	His	Leu	Ala	Gln	Gly	Leu	Thr	Phe	
		260						265							
Glu	Gln	Ala	Lys	Ala	Lys	Ile	Gly	Met	Val	Val	Glu	Gly	Ala	Tyr	Thr
		275					280					285			
Ala	Leu	Ser	Ala	Tyr	Gln	Val	Ala	Lys	His	His	Lys	Ile	Asp	Met	Pro
	290					295					300				
Ile	Thr	Thr	Gly	Ile	Tyr	Arg	Val	Leu	Tyr	Glu	Asn	Leu	Asp	Leu	Lys
305					310					315					320
Glu	Gly	Ile	Ala	Leu	Leu	Gln	Arg	Asn	Thr	Lys	Glu	Glu	Phe	Leu	
				325				330							335

<210> 858

<211> 472

<212> PRT

<213> Chlamydia pneumoniae

<400> 858

Gly	Ser	Arg	Asp	Arg	Asn	Val	Arg	Leu	Thr	Val	Met	Thr	Glu	Ser	Val
1				5					10					15	
Tyr	Ser	Pro	Ser	Ala	Met	His	Val	Asn	Ser	Leu	Ala	Asp	Lys	Leu	Lys
			20					25					30		
Ala	Ile	Asn	Gln	Glu	His	Ile	Leu	Asp	Ile	Trp	Pro	Ser	Leu	Ser	Pro
		35					40					45			
Lys	Gln	Gln	Gln	Arg	Leu	Phe	Gln	Gln	Leu	Thr	Ser	Val	Asp	Ile	Asp
	50					55					60				
Phe	Phe	Arg	Lys	Gln	Gln	Gln	Leu	Leu	Ser	Ser	Pro	Thr	Ala	Ile	Leu
65					70				75						80
Lys	Asp	Phe	His	Pro	Ile	Thr	Ser	Phe	Ala	Ser	Ser	Gly	Glu	Asp	Pro
				85				90						95	
Glu	Arg	Ala	His	Ala	Gly	Thr	Thr	Leu	Leu	Lys	Glu	Lys	Lys	Val	Ala
		100						105						110	
Cys	Val	Val	Leu	Ala	Gly	Gly	Gln	Gly	Ser	Arg	Leu	Lys	Cys	Asp	Gly
		115					120					125			
Pro	Lys	Gly	Leu	Phe	Pro	Val	Ser	Pro	Ile	Lys	Lys	Lys	Pro	Leu	Phe
	130					135					140				
Gln	Leu	Val	Ala	Glu	Lys	Val	Arg	Ala	Ala	Ser	Lys	Leu	Ala	Gly	Gln
145					150					155					160
Pro	Leu	Pro	Leu	Ala	Phe	Met	Thr	Ser	Pro	Leu	Asn	Thr	Arg	Gln	Thr
				165					170					175	
Arg	Ser	Phe	Phe	Glu	Ser	Asn	Asp	Tyr	Phe	His	Leu	Asp	Pro	Asn	Gln
		180						185					190		
Val	Asp	Phe	Phe	Cys	Gln	Pro	Leu	Trp	Pro	Leu	Leu	Thr	Leu	Ser	Gly
	195						200					205			
Asp	Leu	Phe	Leu	Glu	Asp	Met	Asp	Thr	Leu	Ala	Leu	Gly	Pro	Asn	Gly
	210					215						220			
Asn	Gly	Cys	Ile	Ala	Thr	Leu	Leu	Tyr	Thr	Ser	Gly	Val	Trp	Glu	Lys
225					230					235					240



Trp Lys Asn Ala Gly Ile Glu Met Val Ser Val Ile Pro Ile Asp Asn  
 245 250 255  
 Pro Leu Ala Leu Pro Phe Asp Val Glu Leu Cys Gly Phe His Ala Met  
 260 265 270  
 Ser Asn Asn Glu Val Thr Ile Lys Ala Ala Leu Arg Gln Thr Ala Ile  
 275 280 285  
 Glu Asp Val Gly Ile Leu Val Lys Ser His Asp Ser Gly Lys Thr Ser  
 290 295 300  
 Val Ile Glu Tyr Ser Glu Ile Pro Gln Asn Glu Arg Phe Ala Leu Asn  
 305 310 315 320  
 Glu Asp Gly Lys Leu Lys Tyr Cys Leu Ala Asn Ile Gly Leu Tyr Cys  
 325 330 335  
 Leu Ser Met Asp Phe Ile Arg His Ala Ala Tyr Gln Gln Leu Pro Leu  
 340 345 350  
 Tyr Lys Val His Lys His Ala Lys Gln Leu Gly His Thr Ser Leu Asn  
 355 360 365  
 Glu Lys Asn Ala Trp Lys Phe Glu Glu Phe Ile Phe Asp Leu Phe Cys  
 370 375 380  
 Tyr Ser Asp His Cys Gln Thr Leu Val Tyr Pro Arg Gln Glu Cys Phe  
 385 390 395 400  
 Ala Pro Leu Lys Asn Leu Glu Gly Asn His Ser Pro Asp Thr Val Arg  
 405 410 415  
 Gln Ala Leu Ser Asp Arg Glu Arg Gln Leu Phe His Lys Val Thr Gly  
 420 425 430  
 Lys Lys Leu Ser Pro Asn Thr Thr Phe Glu Leu Glu Ala Asp Phe Tyr  
 435 440 445  
 Tyr Pro Ser Thr Ser Thr Ser Leu His Trp Glu Asn Lys Ala Phe Phe  
 450 455 460  
 Glu Glu Pro Phe Phe Glu Ala Ser  
 465 470

<210> 859  
 <211> 139  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 859  
 Leu Leu Leu Leu Arg Gln Tyr Ile Lys Thr Ala Arg Gly Ile Ser Arg  
 1 5 10 15  
 Leu Met Arg Asp Arg Leu Gly Ser Leu Ser Leu Ile Leu Lys Val Lys  
 20 25 30  
 Ile His Lys Tyr Leu Asp Thr Leu His Asn Gln Lys Arg Leu Ala Leu  
 35 40 45  
 Thr Val Ser Arg Asn Ile Gln Ala Thr Asn Lys Arg Ile Ala Asp Leu  
 50 55 60  
 His Leu Glu Arg Tyr Glu His Phe Ile Ser Arg Asp Asn Ile Lys His  
 65 70 75 80  
 Tyr Asp Ile Leu Leu Glu Tyr Leu Lys Thr Leu Gln Ser Ser Leu Tyr  
 85 90 95  
 Lys Gln Gln Ser Glu Ser Leu Arg Phe Leu Glu Ile His His Gln Gln  
 100 105 110  
 Leu Gln Glu Leu Ile Asn Arg Arg Lys Ile Ile Glu Lys Ile Lys Asn  
 115 120 125  
 Asn Lys Tyr Ser Lys Asp Gln Glu Ile Gly Thr  
 130 135

<210> 860  
 <211> 453  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 860

Arg	Asn	Ser	Glu	Thr	Arg	Asn	Gln	Arg	Arg	Thr	Arg	Pro	Ser	Thr	Phe
1				5				10						15	
Cys	Phe	Asp	Ser	Met	Asn	His	Leu	Asn	Lys	Glu	Lys	Leu	His	Ile	His
			20					25					30		
Asn	Trp	Gln	Pro	Tyr	Arg	Ala	Cys	Gly	Leu	Leu	Ser	Lys	Val	Ser	Gly
		35					40					45			
Asn	Leu	Ile	Glu	Val	Asp	Gly	Leu	Ser	Ala	Cys	Leu	Gly	Glu	Leu	Cys
	50					55					60				
Lys	Ile	Ser	Ser	Thr	Lys	Asp	Pro	Asn	Leu	Leu	Ala	Glu	Val	Ile	Gly
65					70					75					80
Phe	His	Asn	His	Thr	Thr	Leu	Leu	Met	Ser	Leu	Ser	Pro	Leu	His	Ser
				85				90						95	
Val	Ala	Leu	Gly	Thr	Glu	Val	Leu	Pro	Leu	Arg	Arg	Pro	Pro	Ser	Leu
			100					105					110		
His	Leu	Ser	Asp	His	Leu	Leu	Gly	Arg	Val	Leu	Asp	Ala	Phe	Gly	Asn
		115					120					125			
Pro	Ile	Asp	Lys	Lys	Glu	Asp	Leu	Pro	Lys	Thr	His	Arg	Lys	Pro	Leu
	130					135						140			
Leu	Ser	Leu	Pro	Pro	Ser	Pro	Met	Met	Arg	Gln	Pro	Ile	Asp	Gln	Ile
145					150					155					160
Phe	Pro	Thr	Gly	Ile	Lys	Ala	Ile	Asp	Ala	Phe	Leu	Thr	Leu	Gly	Lys
			165					170						175	
Gly	Gln	Arg	Ile	Gly	Val	Phe	Ser	Glu	Pro	Gly	Ser	Gly	Lys	Ser	Ser
			180					185					190		
Leu	Leu	Ser	Ala	Ile	Ala	Leu	Gly	Ser	Lys	Ser	Thr	Ile	Asn	Val	Ile
	195						200					205			
Ala	Leu	Ile	Gly	Glu	Arg	Gly	Arg	Glu	Val	Arg	Glu	Tyr	Ile	Glu	Lys
	210					215					220				
His	Ser	Asn	Ala	Leu	Lys	Gln	Gln	Arg	Thr	Ile	Ile	Ile	Ala	Ala	Pro
225					230					235					240
Ala	His	Glu	Thr	Ala	Pro	Thr	Lys	Val	Ile	Ala	Gly	Arg	Ala	Ala	Met
				245					250					255	
Thr	Ile	Ala	Glu	Tyr	Phe	Arg	Glu	Gln	Gly	His	Glu	Val	Leu	Phe	Ile
		260					265						270		
Met	Asp	Ser	Leu	Ser	Arg	Trp	Ile	Ala	Ala	Leu	Gln	Glu	Val	Ala	Leu
	275					280					285				
Ala	Arg	Gly	Glu	Thr	Leu	Ser	Ala	His	Gln	Tyr	Ala	Ala	Ser	Val	Phe
	290					295				300					
His	His	Val	Ser	Glu	Phe	Thr	Glu	Arg	Ala	Gly	Asn	Asn	Asp	Lys	Gly
305					310					315					320
Ser	Ile	Thr	Ala	Leu	Tyr	Ala	Ile	Leu	Tyr	Tyr	Pro	Lys	His	Pro	Asp
			325					330					335		
Ile	Phe	Thr	Asp	Tyr	Leu	Lys	Ser	Leu	Leu	Asp	Gly	His	Phe	Phe	Leu
		340						345					350		
Thr	Ser	Gln	Gly	Lys	Ala	Leu	Ala	Ser	Pro	Pro	Ile	Asp	Ile	Leu	Ser
		355					360					365			
Ser	Leu	Ser	Arg	Ser	Ala	Gln	Ala	Leu	Ala	Leu	Pro	His	His	Tyr	Ala
	370					375					380				
Ala	Ala	Glu	Arg	Leu	Arg	Ser	Leu	Leu	Lys	Val	Tyr	Asn	Glu	Ala	Leu
385					390					395					400
Asp	Ile	Ile	His	Leu	Gly	Ala	Tyr	Thr	Pro	Gly	Gln	Asp	Glu	Glu	Leu
			405					410						415	
Asp	Lys	Ala	Val	Lys	Leu	Leu	Pro	Ser	Ile	Lys	Ala	Phe	Leu	Ala	Gln
		420					425						430		
Pro	Leu	Ser	Ser	Tyr	Cys	Tyr	Leu	Asp	Asn	Thr	Leu	Lys	Gln	Leu	Glu
	435						440					445			
Ala	Leu	Ala	Asp	Ser											
	450														

<210> 861  
 <211> 181  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 861  
 Val Phe Leu Val Thr Thr Pro Gln Ser Pro Gly Ser Leu Ser Gln Ser  
 1 5 10 15  
 His Leu Pro His Pro His Asp Pro Trp Asp Thr Glu Pro Thr Ser Leu  
 20 25 30  
 Pro Glu Asp Pro Asn Asp Lys Ala Ser Gln Glu Leu His Ser Leu Val  
 35 40 45  
 His Leu Phe Arg Lys Leu Ser Ile His Leu Leu Ser Glu Val Glu Lys  
 50 55 60  
 Thr Val Gln Gln Leu Lys Pro Asp Leu Leu Glu Leu Ala Leu Leu Ile  
 65 70 75 80  
 Cys Glu Lys Phe Leu Tyr Lys Lys Leu Glu Asn Pro Gln Glu Leu Ala  
 85 90 95  
 Leu Leu Leu Ser Thr Ala Leu Gln Arg His Thr Thr Leu Arg Ser Leu  
 100 105 110  
 Thr Pro Ile Lys Val Phe Leu His Pro Glu Asp Leu Lys Thr Leu Thr  
 115 120 125  
 Asp Trp Ile Ser Thr His Glu Leu Pro Met Ile Lys His Ala Glu Phe  
 130 135 140  
 Phe Pro Asp Thr Ser Cys Arg Arg Ser Gly Phe Lys Ile Glu Thr Pro  
 145 150 155 160  
 Asn Gly Ile Leu Arg Gln Glu Ile Ser Glu Glu Leu Asp His Leu Leu  
 165 170 175  
 Ser Val Leu Thr Ala  
 180

<210> 862  
 <211> 344  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 862  
 Arg Thr Leu Val Phe Phe Gln Asn Leu Ala Lys Lys Leu Thr Ala Leu  
 1 5 10 15  
 Gly Ile Ser Pro Leu Gly Cys Leu Leu Ile Gly Gly Val Val Ser Cys  
 20 25 30  
 Ala Ile Leu Phe Gly Arg Ser Ser Asn Pro Ser Leu Ala Pro Thr Gln  
 35 40 45  
 Val Lys Thr Glu Lys Thr Ser Gly Asn Trp Leu Lys Leu Thr Gln Met  
 50 55 60  
 Gly Asn Pro Lys Leu Ile Glu Ser Leu Thr Lys Lys Glu Gln Leu Glu  
 65 70 75 80  
 Lys Asp Leu Thr Ser Phe His Pro Ile Ala Ser Ala Lys Val Ala Ile  
 85 90 95  
 Ala Leu Ser Thr Glu Asp Asp Val Met Ser Pro Leu His Leu Ser Val  
 100 105 110  
 Ile Leu Thr Leu Arg Lys Glu Glu Ser Leu Thr Pro Ser Leu Leu Phe  
 115 120 125  
 Ser Ile Thr Asp Tyr Leu Cys Ser Ser Leu Pro Gly Leu Lys Arg Glu  
 130 135 140  
 His Ile Ser Leu Ser Asp Asn Leu Gly Asn Leu Tyr Ile Pro Glu Ser  
 145 150 155 160  
 Ile Thr Val Asn Ser Leu Phe Ile His Thr Leu Glu Asn Tyr Leu Gly  
 165 170 175  
 Lys Ile Phe Pro Lys Glu His Phe Ala Leu Ala Tyr His Ala Lys Ala  
 180 185 190

Glu Lys Pro Thr Leu Gln Leu Thr Leu Asn Glu Asn Tyr Ile Ala His  
 195 200 205  
 Leu Thr Lys Glu Glu Ser Glu Lys Ile Val Ala His Thr Lys His Tyr  
 210 215 220  
 Leu Tyr Gln Asn Tyr Asp Asp Ser Tyr Asp Ile Val Ile Glu Thr Leu  
 225 230 235 240  
 Pro Phe Ala Arg Leu Gln Asn Lys Lys Ser Phe Pro Ala Lys Val Leu  
 245 250 255  
 Ile Gly Ser Met Ile Leu Val Ile Ser Leu Met Ile Val Ala Leu Ala  
 260 265 270  
 Ser Phe Tyr Leu Ala Arg His Ala Tyr Glu Arg Val Ser Pro Glu Pro  
 275 280 285  
 Arg Lys Ile Lys Arg Gly Ile Asn Ile Ser Lys Leu Leu Glu Ile Ile  
 290 295 300  
 Gln Lys Glu Ser Pro Glu Lys Ile Ala Leu Ile Leu Ser Tyr Leu Asp  
 305 310 315 320  
 Pro Lys Lys Ala Glu Ala Leu Leu Asn Arg Leu Pro Glu Asp Leu Lys  
 325 330 335  
 His Gln Val Leu Lys Tyr Lys Leu  
 340

<210> 863  
 <211> 276  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 863  
 Ala Ser Tyr Pro Phe Thr Trp Lys Phe Leu Met Thr Leu Pro Leu Glu  
 1 5 10 15  
 Pro Met Ile Phe Trp Ser Ser Leu Ser Ala Lys Val Met Lys Lys Phe  
 20 25 30  
 Leu Thr Pro His Cys Ala Gly Thr Phe Ser Glu Glu Asp Ala Glu Ala  
 35 40 45  
 Lys Glu Ala His Leu Val Thr Gly Lys Gln Gly His Arg Leu Met Gly  
 50 55 60  
 Asn Cys Val Thr Phe Tyr Trp Leu Val Asp Lys Lys Asn Gly Val Ile  
 65 70 75 80  
 Leu Asp Ala Lys Phe Gln Tyr Phe Gly His Pro Tyr Leu Ile Pro Leu  
 85 90 95  
 Ala Glu Ala Val Cys Asn Leu Val Cys Gly Lys Ser Tyr Ser Glu Ala  
 100 105 110  
 Tyr Lys Met Thr Leu Asp Asp Ile Asp Lys Ser Leu Arg Val His Ala  
 115 120 125  
 His Gln Pro Ala Leu Pro Glu Asp Ser Ile Ser Leu Tyr His Phe Val  
 130 135 140  
 Ile Asp Ala Leu Asp Thr Ala Val Glu Gln Cys Leu Glu Ile Pro Leu  
 145 150 155 160  
 Glu Asp Gly Ser Leu Pro Leu Gln Asn Ser Pro Met Asn Leu Asp Phe  
 165 170 175  
 Glu Asp Ala Asn Pro Tyr Ser Gln Ser Asp Trp Glu Ala Leu Thr His  
 180 185 190  
 Glu Gln Lys Leu Tyr Ala Leu Arg Ala Thr Ile Ala Glu Lys Ile Gly  
 195 200 205  
 Pro Tyr Ile Ala Met Asp Gly Glu Val Thr Val Glu Ser Leu Glu  
 210 215 220  
 Asn Phe Ile Val Thr Ile Ala Tyr Ser Gly Asn Cys Ser Gly Cys Pro  
 225 230 235 240  
 Ser Ser Leu Gly Ser Thr Leu Asn Ser Ile Gly Gln Leu Leu Arg Ala  
 245 250 255  
 Tyr Ile Tyr Pro Glu Leu Gln Val Lys Val Asp Glu Ser Ser Leu Asn  
 260 265 270

Leu Ser His Pro  
275

<210> 864

<211> 401

<212> PRT

<213> Chlamydia pneumoniae

<400> 864

Gly	Arg	Gly	Thr	Ile	Phe	Arg	Ile	Thr	Asp	Gly	Lys	Thr	Ser	Cys	Ile
1				5					10					15	
Ser	Met	Glu	Lys	Pro	Gln	Asn	Arg	Lys	Ala	Pro	Arg	Ile	Phe	Trp	Leu
			20					25					30		
Asn	Asn	Gln	Val	Ala	Ile	Pro	Pro	Ser	Glu	Arg	Val	Lys	Glu	Ser	Tyr
		35					40					45			
Ala	Leu	His	Ser	Asp	Ile	Phe	Ser	Leu	Pro	Pro	Gly	Ser	Ala	Leu	Lys
	50					55					60				
Leu	Ala	Glu	Lys	Thr	Glu	Glu	Ser	Ile	Arg	Gln	Leu	Val	Gly	Leu	Lys
65					70					75					80
Asp	Ser	His	Ile	Phe	Arg	Phe	Val	Pro	His	Phe	Pro	His	Val	Val	His
				85					90					95	
Ile	Val	Leu	Ala	Ala	Leu	Val	Glu	Asn	Leu	Ser	Met	Phe	Gln	Gly	Arg
			100					105					110		
Asn	His	Ile	Ile	Leu	Pro	Ala	His	Asp	Gln	Gln	Leu	Leu	Ile	Asn	Ser
		115					120					125			
Leu	Cys	Arg	His	Gln	Gly	Leu	Gly	Thr	Thr	Tyr	Asp	Trp	Val	Thr	Val
	130					135					140				
Asn	His	Glu	Gly	Arg	Ile	Val	Glu	Glu	Gln	Leu	Ile	Glu	Thr	Leu	Ser
145					150					155					160
Pro	Arg	Ser	Leu	Leu	Phe	Ser	Leu	Ser	Ala	Ala	His	Gly	Leu	Thr	Gly
				165					170					175	
Val	Ile	Gln	Pro	Leu	Asp	Pro	Leu	Leu	Ser	Leu	Cys	Lys	Asp	Arg	Arg
			180					185					190		
Ile	Leu	Leu	His	Leu	Asp	Ile	Ser	Asp	Ile	Leu	Gly	Arg	Ala	Pro	Leu
	195						200					205			
Thr	Pro	Glu	Ile	Leu	Asn	Ala	Asp	Ile	Ile	Thr	Phe	Ser	Ser	Ala	Ala
	210					215					220				
Leu	Gly	Gly	Met	Gly	Ser	Ile	Gly	Gly	Ile	Phe	Ile	Arg	Lys	Ser	Leu
225					230					235					240
Glu	Arg	Val	Phe	Ser	Ser	Trp	Phe	Pro	Pro	His	Thr	Ser	Ala	Ser	Leu
			245						250					255	
Cys	Phe	Ser	Ala	Val	Ala	Ala	Met	Gln	Thr	Ala	Cys	Glu	Glu	Arg	Ile
			260					265					270		
Ser	Ala	Leu	Pro	Leu	Phe	Thr	Phe	His	Thr	Ser	Asn	Leu	Cys	Lys	Lys
	275						280					285			
Leu	Ile	Gln	Glu	Leu	Gln	Ser	Val	Leu	Pro	Ser	Ile	Gln	Leu	Ala	Phe
	290					295					300				
Ser	Glu	Val	Gln	Asn	Arg	Leu	Pro	Asn	Ile	Val	Val	Ala	Ala	Ile	Pro
305					310					315					320
Asp	Ile	Pro	Ala	Glu	Ser	Leu	Ala	Phe	His	Leu	His	Gln	Gln	Gly	Ile
			325						330					335	
Tyr	Pro	Ser	Leu	Gly	Tyr	Glu	Arg	Phe	Gln	Pro	Leu	Ala	Gln	Val	Leu
			340					345					350		
Gln	Asn	Cys	Gly	Ile	Ser	Pro	Phe	Leu	Cys	His	Ser	Ala	Leu	His	Phe
	355						360					365			
Ser	Leu	Thr	Glu	Arg	Ser	Lys	Asp	Leu	Glu	Phe	Ser	Lys	Leu	Ala	Arg
	370					375					380				
Ala	Met	His	Asp	Ala	Ile	Lys	His	Leu	Thr	Pro	Leu	Leu	Gly	Ser	Ser
385					390					395					400
Ser															

<210> 865  
 <211> 230  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 865  
 Glu His Met Ala Leu Leu Ile Leu Leu Arg His Gly Gln Ser Val Trp  
 1 5 10 15  
 Asn Glu Lys Asn Leu Phe Ser Gly Trp Val Asp Ile Pro Leu Ser Gln  
 20 25 30  
 Gln Gly Ile Glu Glu Ala Phe Ser Ala Gly Arg Ala Ile Gln Asn Leu  
 35 40 45  
 Pro Ile Asp Cys Ile Phe Thr Ser Thr Leu Val Arg Ser Leu Met Thr  
 50 55 60  
 Ala Leu Leu Ala Met Thr Asn His His Ser Lys Lys Ile Pro Tyr Ile  
 65 70 75 80  
 Val His Glu Asp Pro Lys Ala Lys Glu Met Ser Arg Ile Tyr Ser Ala  
 85 90 95  
 Glu Glu Glu Asn Asn Met Ile Pro Leu Tyr Gln Ser Ser Ala Leu Asn  
 100 105 110  
 Glu Arg Met Tyr Gly Glu Leu Gln Gly Lys Asn Lys Lys Gln Thr Ala  
 115 120 125  
 Glu Gln Phe Gly Glu Glu Arg Val Lys Leu Trp Arg Arg Ser Tyr Lys  
 130 135 140  
 Thr Ala Pro Pro Gln Gly Glu Ser Leu Tyr Asp Thr Lys Gln Arg Thr  
 145 150 155 160  
 Leu Pro Tyr Phe Glu Lys Asn Ile Leu Pro Gln Leu Gln Asn Gly Lys  
 165 170 175  
 Asn Val Phe Val Ser Ala His Gly Asn Ser Leu Arg Ser Leu Ile Met  
 180 185 190  
 Asp Leu Glu Lys Leu Ser Glu Glu Glu Val Leu Ser Leu Glu Leu Pro  
 195 200 205  
 Thr Gly Lys Pro Val Val Tyr Gln Trp Lys Asn His Lys Ile Glu Lys  
 210 215 220  
 His Pro Glu Phe Phe Gly  
 225 230

<210> 866  
 <211> 239  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 866  
 Tyr Gly Val Asn Val Thr Lys Val Arg Leu Asn Lys Phe Leu Ala Ser  
 1 5 10 15  
 Ala Gly Val Ala Ser Arg Arg Lys Cys Asp Glu Ile Ile Phe Ser Gly  
 20 25 30  
 Ser Val Thr Val Asn Gly Arg Val Ala Glu Gly Pro Phe Val Leu Val  
 35 40 45  
 Asp Pro Glu Asp Lys Val Gln Val Gly Gly Thr Ser Val His Leu Thr  
 50 55 60  
 Lys Lys Val Tyr Phe Met Val His Lys Ala Ile Gly Tyr Leu Cys Ser  
 65 70 75 80  
 Ser Glu Lys Lys Phe Pro Gly Thr Lys Leu Val Ile Asp Leu Phe Ala  
 85 90 95  
 His Leu Pro Tyr Arg Val Phe Thr Val Gly Arg Leu Asp Lys Glu Thr  
 100 105 110  
 Ser Gly Leu Ile Leu Val Thr Asn Asp Gly Glu Phe Ala Asn Lys Ile  
 115 120 125  
 Ile His Pro Ser Ser Gly Ile Thr Lys Glu Tyr Leu Leu Lys Val Ser  
 130 135 140

Arg Asp Val Ser Ala Lys Asp Leu Gly Lys Leu Met Glu Gly Thr Phe  
 145 150 155 160  
 Ile Asp Gly Lys His Val Arg Pro Val Ser Val Thr Lys Ile Arg Arg  
 165 170 175  
 Gly Thr Val Lys Ile Val Val Ser Glu Gly Lys Lys His Glu Ile Arg  
 180 185 190  
 Leu Phe Ala Asp Ala Ala Gly Phe Pro Ile Leu Glu Leu Lys Arg Ile  
 195 200 205  
 Arg Ile Gly Ser Leu Val Leu Gly Gly Leu Arg Tyr Gly Glu Tyr Arg  
 210 215 220  
 Glu Leu Thr Asp Ala Glu Leu Gly Thr Tyr Met Lys Leu Ser Asp  
 225 230 235

<210> 867  
 <211> 177  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 867  
 Ser Pro Met Gly Tyr Val Phe Tyr Val Ile Ala Gly Ser Ile Phe Leu  
 1 5 10 15  
 Gly Ile Ser Leu Gly Ala Tyr Cys Gln Leu Tyr Tyr Ser Val Lys Ser  
 20 25 30  
 Val Leu Phe Ser Trp Tyr Leu Leu Thr Val Tyr Ala Leu Glu Lys Arg  
 35 40 45  
 His Ala Leu Leu Ala Leu Ser Gln Leu Val Gly Glu Glu Asp Ala Gln  
 50 55 60  
 Ser Gln Lys Glu Ile Asp Phe Leu Ser Gln Cys Asp Lys Leu Ser Trp  
 65 70 75 80  
 Arg Ala Phe Leu Lys Asn Ser Tyr Glu Ile Ile Pro Thr Phe Lys Glu  
 85 90 95  
 Met Glu Asp Leu Leu Ser Glu Arg Val Gln Gly Phe Leu Glu Ser Ile  
 100 105 110  
 Glu Thr Ile Ala Glu His Asp Arg Ala Ile Leu Cys Ile Glu Asn Phe  
 115 120 125  
 Trp Ala Ser Lys Asn Leu Phe Asp Phe Glu Ile Ala Ala Tyr Glu Glu  
 130 135 140  
 Ala Val Glu Lys Tyr Leu Lys Leu Arg Gln Arg Ala Pro Leu Arg Leu  
 145 150 155 160  
 Ala Ser Lys Leu Phe Arg Phe Leu Asp Val Pro Ser Ile Arg Phe Ser  
 165 170 175  
 Ser

<210> 868  
 <211> 193  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 868  
 Asn Met Lys Val Ile Tyr Tyr Glu Ile Glu Glu Ile Pro Ser Thr Asn  
 1 5 10 15  
 Thr Met Ala Lys Ser Tyr Met His Leu Trp Asp Pro Tyr Ala Leu Thr  
 20 25 30  
 Val Ile Ser Thr Lys Cys Gln Thr Ala Gly Thr Gly Lys Phe Gly Lys  
 35 40 45  
 Ser Trp Lys Ser Ser Lys Gly Asp Leu Leu Asn Thr Phe Cys Phe Phe  
 50 55 60  
 Ile Thr Asp Leu His Ile Asp Val Ser Arg Leu Phe Arg Leu Gly Thr  
 65 70 75 80

Glu Ala Val Val Ala Leu Cys Lys Asp Leu Gly Ile Thr Glu Ala Lys  
                             85                            90                            95  
 Ile Lys Trp Pro Asn Asp Val Leu Val His Gly Glu Lys Leu Cys Gly  
                             100                            105                            110  
 Val Leu Pro Glu Thr Leu Pro Val Glu Gly Leu Leu Gly Val Val Leu  
                             115                            120                            125  
 Gly Ile Gly Leu Asn Gly Asn Thr Thr Lys Gln Ala Leu Lys Asp Val  
                             130                            135                            140  
 Gly Gln Pro Ala Thr Ser Leu Gln Glu Ile Leu Gly His Pro Ile Asp  
 145                            150                            155                            160  
 Leu Glu Thr Thr Arg Glu Leu Leu Ile His His Leu Leu Gly Val Leu  
                             165                            170                            175  
 Gln Glu Asn Leu Pro Asp Ser Leu Ala Thr Lys Ser Asn Arg Gly Asn  
                             180                            185                            190  
 Ile

<210> 869  
 <211> 421  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 869  
 Cys Ile Arg Ile Pro Gln Met His Ile Gly Phe Cys His Cys Val Arg  
 1                            5                            10                            15  
 Gly Gly Asn Phe Phe Tyr Phe Val Ile Asn Asn Phe His Ile Leu Glu  
                             20                            25                            30  
 Ile Tyr Ser Leu Leu Asn Ser Asn Thr Ile Met Arg Tyr His Lys Tyr  
                             35                            40                            45  
 Phe Arg Tyr Val Asn Ser Trp Val Phe Leu Val Val Leu Thr Leu Met  
                             50                            55                            60  
 Leu Leu Ser Val Val Val Ile Ser Ser Met Asp Pro Thr Ala Met Leu  
 65                            70                            75                            80  
 Val Thr Ser Ser Lys Gly Leu Leu Thr Asn Lys Ser Ile Met Gln Leu  
                             85                            90                            95  
 Arg His Phe Ala Leu Gly Trp Val Val Phe Phe Ile Cys Ala Tyr Phe  
                             100                            105                            110  
 Asp Tyr His Leu Phe Lys Arg Trp Ala Trp Val Leu Tyr Phe Phe Met  
                             115                            120                            125  
 Ile Cys Ala Leu Val Gly Leu Phe Phe Val Pro Ser Val Gln Asn Val  
                             130                            135                            140  
 His Arg Trp Tyr Arg Ile Pro Phe Ile His Met Ser Val Gln Pro Ser  
 145                            150                            155                            160  
 Glu Tyr Gly Lys Leu Val Ile Val Ile Met Leu Ser Tyr Ile Leu Glu  
                             165                            170                            175  
 Ser Arg Lys Ala Asp Ile Thr Ser Lys Thr Thr Ala Phe Leu Ala Cys  
                             180                            185                            190  
 Leu Val Val Ala Leu Pro Phe Phe Leu Ile Leu Lys Glu Pro Asp Leu  
                             195                            200                            205  
 Gly Thr Ala Leu Val Leu Cys Pro Val Thr Leu Thr Ile Phe Tyr Leu  
                             210                            215                            220  
 Ser Asn Val His Ser Leu Leu Val Lys Phe Cys Thr Val Val Ala Thr  
 225                            230                            235                            240  
 Ile Gly Ile Ile Gly Ser Leu Leu Ile Phe Ser Gly Ile Val Ser His  
                             245                            250                            255  
 Gln Lys Val Lys Pro Tyr Ala Leu Lys Val Ile Lys Glu Tyr Gln Tyr  
                             260                            265                            270  
 Glu Arg Leu Ser Pro Ser Asn His His Gln Arg Ala Ser Leu Ile Ser  
                             275                            280                            285  
 Ile Gly Leu Gly Gly Ile Arg Gly Arg Gly Trp Lys Thr Gly Glu Phe  
                             290                            295                            300



Ala	Gly	Arg	Gly	Trp	Leu	Pro	Tyr	Gly	Tyr	Thr	Asp	Ser	Val	Phe	Ser
305					310					315					320
Ala	Leu	Gly	Glu	Glu	Phe	Gly	Leu	Leu	Gly	Leu	Leu	Phe	Thr	Leu	Gly
			325						330						335
Leu	Phe	Tyr	Cys	Leu	Ile	Cys	Phe	Gly	Cys	Arg	Thr	Val	Ala	Val	Ala
			340					345					350		
Thr	Asp	Asp	Phe	Gly	Lys	Leu	Leu	Ala	Ala	Gly	Ile	Thr	Val	Tyr	Leu
		355					360						365		
Ala	Met	His	Val	Leu	Ile	Asn	Ile	Ser	Met	Met	Cys	Gly	Leu	Leu	Pro
	370					375					380				
Ile	Thr	Gly	Val	Pro	Leu	Ile	Leu	Ile	Ser	Tyr	Gly	Gly	Ser	Ser	Val
385					390					395					400
Ile	Ser	Thr	Met	Ala	Ser	Leu	Gly	Val	Leu	Gln	Ser	Ile	Tyr	Ser	His
				405					410					415	
Arg	Phe	Ala	Lys	Tyr											
			420												

<210> 870

<211> 688

<212> PRT

<213> Chlamydia pneumoniae

<400> 870

Asn	Phe	Arg	Asn	Gly	Leu	Gly	Val	Arg	Asp	Leu	His	His	Phe	Arg	Glu
1				5					10					15	
Tyr	Tyr	Leu	Ile	Ile	Asn	Glu	Ile	Ile	Ile	Thr	Gly	Arg	Tyr	Val	Phe
			20					25					30		
Ser	Arg	Leu	Phe	Phe	Thr	Ser	Phe	Ser	Ala	Glu	Val	Val	Asn	Thr	Phe
		35					40					45			
Phe	Glu	Ser	Gly	Met	Ser	Glu	Asp	Thr	Ser	Pro	Leu	Leu	Ser	Lys	Gln
	50					55				60					
Asn	Arg	Lys	Leu	Ser	His	Asn	Leu	Pro	Leu	Lys	Ser	Ala	Tyr	Leu	Ser
65					70					75					80
Leu	Gly	Thr	Tyr	Leu	Ile	Ala	Leu	Leu	Ser	Phe	Trp	Leu	His	Ala	Lys
			85						90					95	
Asn	Leu	Ser	Asn	Leu	Phe	Val	Val	Phe	Thr	Phe	Phe	Leu	Ala	Gly	Thr
			100					105					110		
Pro	Ala	Leu	Ile	Lys	Ser	Leu	Asp	Asn	Ile	Cys	Gln	Lys	Val	Val	Asn
	115						120					125			
Ile	Asp	Ile	Leu	Met	Thr	Ser	Ala	Ala	Phe	Gly	Ser	Ile	Phe	Ile	Gly
	130					135					140				
Gly	Ala	Leu	Glu	Gly	Ala	Leu	Leu	Leu	Val	Leu	Phe	Ala	Ile	Ser	Glu
145					150					155					160
Ala	Leu	Gly	Gln	Met	Val	Ser	Gly	Lys	Ala	Lys	Ser	Thr	Leu	Val	Ser
			165						170					175	
Leu	Lys	Gln	Leu	Ala	Pro	Thr	Thr	Gly	Trp	Leu	Val	Leu	Glu	Asp	Gly
			180					185					190		
Asn	Leu	Gln	Lys	Val	Ala	Ile	Asn	Lys	Ile	Glu	Val	Gly	Asn	Ile	Leu
	195						200					205			
Arg	Ile	Lys	Ser	Gly	Glu	Val	Val	Pro	Leu	Asp	Gly	Glu	Ile	Leu	His
	210				215						220				
Gly	Ser	Ser	Ser	Ile	Asn	Leu	Met	His	Leu	Thr	Gly	Glu	Lys	Val	Pro
225					230					235					240
Lys	Ser	Cys	His	Pro	Gly	Ser	Ile	Val	Pro	Ala	Gly	Ala	His	Asn	Met
				245					250					255	
Glu	Gly	Ser	Phe	Asp	Leu	Arg	Val	Leu	Arg	Thr	Gly	Ser	Asp	Ser	Thr
			260					265					270		
Ile	Ala	His	Ile	Ile	Asn	Leu	Val	Ile	Gln	Ala	Gln	Asn	Ser	Lys	Pro
	275					280						285			
Arg	Leu	Gln	Gln	Arg	Leu	Asp	Lys	Tyr	Ser	Ser	Val	Tyr	Ala	Leu	Ser
	290					295						300			

Ile	Phe	Ala	Ile	Ala	Cys	Gly	Ile	Ala	Leu	Leu	Val	Pro	Leu	Phe	Thr
305					310					315					320
Ser	Ile	Pro	Leu	Leu	Gly	Pro	Gln	Ser	Ala	Phe	Tyr	Arg	Ala	Leu	Ala
				325					330					335	
Phe	Leu	Ile	Ala	Ala	Ser	Pro	Cys	Ala	Leu	Ile	Ile	Ala	Ile	Pro	Ile
			340					345					350		
Ala	Tyr	Leu	Ser	Ala	Ile	Asn	Ala	Cys	Ala	Lys	His	Gly	Val	Leu	Leu
		355				360						365			
Lys	Gly	Gly	Val	Ile	Leu	Asp	Arg	Leu	Val	Ser	Cys	Asn	Ser	Val	Val
	370					375					380				
Met	Asp	Lys	Thr	Gly	Thr	Leu	Thr	Thr	Gly	Glu	Leu	Thr	Cys	Ile	Gly
385					390					395					400
Cys	Asp	Tyr	Phe	Gly	Ser	Lys	Asn	Glu	Thr	Phe	Phe	Pro	Ser	Val	Leu
			405					410						415	
Ala	Leu	Glu	Gln	Ser	Ser	Ser	His	Pro	Ile	Ala	Glu	Ala	Ile	Val	Ser
			420					425					430		
Tyr	Leu	Met	Glu	Gln	Lys	Val	Ser	Ser	Leu	Pro	Ala	Asp	Arg	Tyr	Leu
	435						440					445			
Thr	Val	Pro	Gly	Glu	Gly	Val	Arg	Gly	Tyr	Phe	Asn	Glu	Gln	Glu	Ala
	450					455					460				
Phe	Val	Gly	Arg	Val	Glu	Thr	Gly	Leu	Gly	Lys	Val	Pro	Ser	Glu	Tyr
465					470					475					480
Leu	Glu	Asp	Ile	Glu	Gln	Lys	Ile	Tyr	Gln	Ala	Lys	Gln	His	Gly	Glu
			485					490						495	
Ile	Cys	Ser	Leu	Ala	Tyr	Val	Gly	Asn	Ser	Phe	Ala	Leu	Phe	Tyr	Phe
		500						505					510		
Arg	Asp	Ile	Pro	Arg	Pro	Gln	Ala	Lys	Glu	Ile	Ile	Gln	Asp	Leu	Lys
	515					520						525			
Asp	Leu	Gly	Tyr	Pro	Val	Ser	Met	Leu	Thr	Gly	Asp	His	Lys	Val	Ser
	530					535					540				
Ala	Glu	Asn	Thr	Ala	Glu	Ile	Leu	Gly	Ile	Ser	Glu	Val	Phe	Phe	Asp
545					550					555					560
Leu	Thr	Pro	Glu	Asp	Lys	Leu	Ala	Lys	Ile	Arg	Glu	Leu	Ala	Thr	Gln
			565					570						575	
Arg	Gln	Ile	Met	Met	Val	Gly	Asp	Gly	Ile	Asn	Asp	Ala	Pro	Ala	Leu
		580						585					590		
Ala	Gln	Ala	Thr	Val	Gly	Ile	Ala	Met	Gly	Glu	Ala	Gly	Ser	Ala	Thr
	595						600					605			
Ala	Ile	Glu	Ala	Ala	Asp	Ile	Val	Leu	Leu	His	Asp	Ser	Leu	Ser	Ser
	610					615					620				
Leu	Pro	Trp	Ile	Ile	Gln	Lys	Ala	Lys	Gln	Thr	Lys	Lys	Val	Val	Ser
625					630					635					640
Gln	Asn	Leu	Ala	Leu	Ala	Leu	Ala	Ile	Ile	Leu	Leu	Val	Ser	Trp	Pro
			645					650						655	
Ala	Ser	Leu	Gly	Ile	Ile	Pro	Leu	Trp	Leu	Ala	Val	Ile	Leu	His	Glu
		660						665					670		
Gly	Ser	Thr	Val	Ile	Val	Gly	Leu	Asn	Ala	Leu	Arg	Leu	Leu	Lys	Ser
		675					680					685			

<210> 871

<211> 274

<212> PRT

<213> Chlamydia pneumoniae

<400> 871

Glu	Gly	Trp	Arg	Phe	Phe	Phe	Pro	Lys	Thr	Ser	Glu	Asn	Thr	Ser	Asp
1				5				10					15		
Cys	Arg	Gln	His	Gln	Ile	Leu	Arg	Lys	Ile	Met	Thr	Gln	Asp	Pro	His
		20						25				30			
Asp	His	Phe	Lys	Ser	Arg	Thr	Pro	Glu	Asp	His	Ile	Lys	His	Val	Arg
	35						40					45			

Asp	Lys	His	Arg	Val	Cys	Lys	Gly	Glu	Pro	His	Thr	Thr	Phe	Lys	Gly
50						55					60				
Phe	Phe	Tyr	His	Leu	Ala	Asn	Asn	Ala	Leu	Ser	Thr	Gly	Val	Phe	Ile
65					70					75					80
Phe	Phe	Ile	Arg	Thr	Leu	Phe	Phe	Leu	Ile	Pro	Thr	Asn	Arg	Ala	Leu
				85					90					95	
Gln	Val	Lys	Ser	Leu	Ile	Ser	Leu	Gly	Val	Gly	Trp	Thr	Phe	Tyr	His
			100					105					110		
Gly	Cys	Leu	Lys	Ala	Arg	Lys	Ala	Trp	Ala	Tyr	Met	Glu	Leu	Ser	His
		115					120					125			
Arg	Ser	Met	Leu	Glu	Glu	Lys	Asn	Glu	Ile	Glu	Glu	Asn	Phe	Glu	Gln
	130					135					140				
Glu	Lys	Ile	Glu	Leu	Arg	Ile	Leu	Phe	Glu	Asn	Gln	Gly	Phe	Lys	Asp
145					150					155					160
Pro	Leu	Leu	Gln	Glu	Met	Val	Glu	Tyr	Val	Cys	Ser	Asp	Ser	Thr	Leu
				165					170					175	
Leu	Leu	Asp	Thr	Met	Ile	Arg	Glu	Glu	Leu	Tyr	Ile	Arg	Lys	Glu	Asp
			180					185					190		
Leu	Pro	His	Pro	Leu	Ile	Gln	Gly	Gly	Ser	Arg	Ile	Leu	Gly	Gly	Leu
		195				200						205			
Cys	Gly	Leu	Ala	Ile	Phe	Leu	Pro	Leu	Val	Leu	Cys	Ile	Ser	Tyr	Thr
	210					215					220				
Leu	Ala	Gly	Val	Phe	Ser	Ala	Leu	Met	Val	Leu	Val	Leu	Ser	Phe	Leu
225					230					235					240
Lys	Ala	Lys	Ile	Leu	Lys	Asn	Asp	Lys	Ile	Ser	Glu	Met	Val	Trp	Val
				245					250					255	
Leu	Gly	Ile	Phe	Ile	Thr	Ser	Ala	Ser	Ile	Ile	Ser	Ser	Leu	Met	Lys
			260					265					270		
Leu	Leu														

<210> 872  
 <211> 478  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 872

Thr	Thr	Thr	His	Pro	Thr	Gln	Gly	Phe	Gly	Gly	Ala	Val	Ile	Leu	Pro
1				5					10					15	
Phe	Ser	Pro	Ile	Ser	Ile	Ala	Arg	Arg	Ile	Lys	Lys	Ser	Cys	Cys	Ser
			20					25					30		
Glu	Lys	Ser	Ser	Ile	Tyr	Ser	His	Phe	Cys	Thr	Leu	Leu	Leu	Asn	Asn
		35					40					45			
Glu	Thr	Ser	Met	Leu	Asp	Ile	Lys	Ile	Ile	Arg	Lys	Thr	Pro	Glu	Glu
	50					55					60				
Cys	Glu	Thr	Arg	Leu	Arg	Lys	Lys	Asp	Pro	Lys	Ile	Ser	Leu	Glu	Pro
65					70					75					80
Val	Leu	Ser	Leu	Asp	Lys	Glu	Val	Arg	Gln	Leu	Lys	Thr	Asp	Ser	Glu
			85					90					95		
Thr	Leu	Gln	Ala	Gln	Arg	Arg	Leu	Leu	Ser	Gln	Asp	Ile	His	Lys	Ala
		100						105					110		
Lys	Thr	Gln	Gly	Val	Asp	Ala	Thr	Asn	Leu	Ile	Gln	Glu	Val	Glu	Thr
		115					120					125			
Leu	Ala	Ala	Asp	Leu	Glu	Lys	Ile	Glu	Gln	His	Leu	Asp	Gln	Lys	Asn
	130					135					140				
Ala	Gln	Leu	His	Glu	Leu	Leu	Ser	His	Leu	Pro	Asn	Tyr	Pro	Ala	Asp
145				150						155					160
Asp	Ile	Pro	Val	Ser	Glu	Asp	Lys	Ala	Gly	Asn	Gln	Val	Ile	Lys	Ser
				165					170					175	
Val	Gly	Asp	Leu	Pro	Ile	Phe	Ser	Phe	Pro	Pro	Lys	His	His	Leu	Glu
			180					185					190		

Leu	Asn	Gln	Glu	Leu	Asp	Ile	Leu	Asp	Phe	Gln	Ala	Ala	Ala	Lys	Thr
		195					200					205			
Thr	Gly	Ser	Gly	Trp	Pro	Ala	Tyr	Lys	Asn	Arg	Gly	Val	Leu	Leu	Glu
	210					215					220				
Trp	Ala	Leu	Leu	Thr	Tyr	Met	Leu	Gln	Lys	Gln	Ala	Ala	His	Gly	Phe
225					230					235					240
Gln	Leu	Trp	Leu	Pro	Pro	Leu	Leu	Val	Lys	Lys	Glu	Ile	Leu	Phe	Gly
				245					250					255	
Ser	Gly	Gln	Ile	Pro	Lys	Phe	Asp	Gly	Gln	Tyr	Tyr	Arg	Val	Glu	Asp
			260					265					270		
Gly	Glu	Gln	Tyr	Leu	Tyr	Leu	Ile	Pro	Thr	Ala	Glu	Val	Val	Leu	Asn
		275					280					285			
Gly	Phe	Arg	Ser	Gln	Asp	Ile	Leu	Thr	Glu	Lys	Glu	Leu	Pro	Leu	Tyr
	290					295					300				
Tyr	Ala	Ala	Cys	Thr	Pro	Cys	Phe	Arg	Arg	Glu	Ala	Gly	Ala	Ala	Gly
305					310					315					320
Ala	Gln	Glu	Arg	Gly	Leu	Val	Arg	Val	His	Gln	Phe	His	Lys	Val	Glu
				325					330					335	
Met	Phe	Ala	Phe	Thr	Thr	Pro	Asn	Gln	Asp	Asp	Ile	Ala	Tyr	Glu	Lys
			340					345					350		
Met	Leu	Ser	Ile	Val	Glu	Glu	Met	Leu	Thr	Glu	Leu	Lys	Leu	Pro	Tyr
		355					360					365			
Arg	Leu	Ser	Leu	Leu	Ser	Thr	Gly	Asp	Met	Ser	Phe	Thr	Ala	Ser	Lys
	370					375					380				
Thr	Ile	Asp	Ala	Glu	Val	Trp	Leu	Pro	Gly	Gln	Lys	Ala	Phe	Tyr	Glu
385					390					395					400
Val	Ser	Ser	Ile	Ser	Gln	Cys	Thr	Asp	Phe	Gln	Ser	Arg	Arg	Ser	Gly
				405					410					415	
Thr	Arg	Tyr	Lys	Asp	Ser	Gln	Gly	Lys	Leu	Gln	Phe	Val	His	Thr	Leu
			420					425					430		
Asn	Gly	Ser	Gly	Leu	Ala	Thr	Pro	Arg	Leu	Leu	Val	Ala	Ile	Leu	Glu
		435					440					445			
Asn	Asn	Gln	Gln	Ala	Asp	Gly	Ser	Val	Val	Ile	Pro	Glu	Val	Leu	Arg
	450					455					460				
Pro	Tyr	Leu	Gly	Gly	Leu	Glu	Ile	Leu	Leu	Pro	Lys	Asp	Gln		
465					470					475					

<210> 873

<211> 378

<212> PRT

<213> Chlamydia pneumoniae

<400> 873

Glu	Tyr	Met	Glu	Asp	Phe	Ser	Glu	Gln	Gln	Leu	Phe	Phe	Met	Arg	Arg
1					5			10						15	
Ala	Ile	Glu	Ile	Gly	Glu	Lys	Gly	Arg	Ile	Thr	Ala	Pro	Pro	Asn	Pro
			20					25					30		
Trp	Val	Gly	Cys	Val	Val	Val	Gln	Glu	Asn	Arg	Ile	Ile	Gly	Glu	Gly
		35					40					45			
Phe	His	Ala	Tyr	Ala	Gly	Gly	Pro	His	Ala	Glu	Glu	Leu	Ala	Ile	Gln
	50					55				60					
Asn	Ala	Ser	Met	Pro	Ile	Ser	Gly	Ser	Asp	Val	Tyr	Val	Ser	Leu	Glu
65					70					75				80	
Pro	Cys	Ser	His	Phe	Gly	Ser	Cys	Pro	Pro	Cys	Ala	Asn	Leu	Leu	Ile
			85					90					95		
Lys	His	Lys	Val	Ser	Arg	Val	Phe	Val	Ala	Leu	Val	Asp	Pro	Asp	Pro
			100					105					110		
Lys	Val	Ala	Gly	Gln	Gly	Ile	Ala	Met	Leu	Arg	Gln	Ala	Gly	Ile	Gln
		115					120					125			
Val	Tyr	Val	Gly	Ile	Gly	Glu	Ser	Glu	Ala	Gln	Ala	Ser	Leu	Gln	Pro
	130					135						140			

Tyr	Leu	Tyr	Gln	Arg	Thr	His	Asn	Phe	Pro	Trp	Thr	Ile	Leu	Lys	Ser
145					150					155					160
Ala	Ala	Ser	Val	Asp	Gly	Gln	Val	Ala	Asp	Ser	Gln	Gly	Lys	Ser	Gln
				165					170						175
Trp	Ile	Thr	Cys	Pro	Glu	Ala	Arg	His	Asp	Val	Gly	Lys	Leu	Arg	Ala
			180					185						190	
Glu	Ser	Gln	Ala	Ile	Leu	Val	Gly	Ser	Arg	Thr	Val	Leu	Ser	Asp	Asp
		195					200					205			
Pro	Trp	Leu	Thr	Ala	Arg	Gln	Pro	Gln	Gly	Met	Leu	Tyr	Pro	Lys	Gln
	210					215					220				
Pro	Leu	Arg	Val	Val	Leu	Asp	Ser	Arg	Gly	Ser	Val	Pro	Pro	Thr	Ser
225					230					235					240
Lys	Val	Phe	Asp	Lys	Thr	Ser	Pro	Thr	Leu	Tyr	Val	Thr	Thr	Glu	Arg
			245					250						255	
Cys	Pro	Glu	Asn	Tyr	Ile	Lys	Val	Leu	Asp	Ser	Leu	Asp	Val	Pro	Val
			260					265					270		
Leu	Leu	Thr	Glu	Ser	Thr	Pro	Ser	Gly	Val	Asp	Leu	His	Lys	Val	Tyr
		275					280					285			
Glu	Tyr	Leu	Ala	Gln	Lys	Lys	Ile	Leu	Gln	Val	Leu	Val	Glu	Gly	Gly
	290					295					300				
Thr	Thr	Leu	His	Thr	Ser	Leu	Leu	Lys	Glu	Arg	Phe	Val	Asn	Ser	Leu
305					310					315					320
Val	Leu	Tyr	Ser	Gly	Pro	Met	Ile	Leu	Gly	Asp	Gln	Lys	Arg	Pro	Leu
				325					330					335	
Val	Gly	Val	Leu	Gly	Asn	Leu	Leu	Glu	Ser	Ala	Ser	Pro	Leu	Thr	Leu
			340					345					350		
Lys	Ser	Ser	Gln	Ile	Leu	Gly	Asn	Ser	Leu	Lys	Val	Val	Trp	Glu	Ile
		355					360					365			
Ser	Pro	Gln	Val	Phe	Glu	Pro	Ile	Arg	Asn						
		370				375									

<210> 874

<211> 438

<212> PRT

<213> Chlamydia pneumoniae

<400> 874

Lys	Glu	Arg	Ile	Phe	Arg	Val	Ala	Cys	Leu	Ala	Ser	Glu	Ser	Val	Asn
1				5					10					15	
Ala	Arg	Glu	Ser	Met	Ile	Glu	Thr	Arg	Glu	Glu	Val	Gly	Ser	Ala	Asn
			20					25					30		
Phe	Val	Ser	Leu	Glu	Arg	Ala	Ile	Glu	Asp	Leu	Arg	Ala	Gly	Lys	Phe
		35					40					45			
Val	Ile	Val	Val	Asp	Glu	Ala	Ser	Arg	Glu	Asp	Glu	Gly	Asp	Leu	Ile
	50					55					60				
Ile	Ala	Gly	Glu	Lys	Ile	Thr	Val	Glu	Lys	Met	Thr	Phe	Leu	Leu	Gln
65					70					75					80
His	Thr	Thr	Gly	Val	Val	Cys	Ala	Ala	Leu	Ser	Gln	Glu	Arg	Leu	Leu
			85						90					95	
Ser	Leu	Asp	Leu	Pro	Pro	Met	Val	Lys	Asp	Asn	Arg	Cys	Arg	Phe	Lys
		100						105					110		
Thr	Pro	Phe	Thr	Val	Ser	Val	Asp	Ala	Ala	His	Gly	Val	Thr	Thr	Gly
		115					120					125			
Val	Ser	Ala	Ala	Asp	Arg	Thr	Lys	Val	Val	Gln	Leu	Leu	Ala	Asp	Pro
		130					135				140				
Lys	Ser	Lys	Pro	Glu	Asp	Phe	Ile	Ser	Pro	Gly	His	Phe	Phe	Pro	Leu
145					150					155					160
Ala	Ser	Ser	Pro	Gly	Gly	Val	Leu	Lys	Arg	Ala	Gly	His	Thr	Glu	Ser
				165					170					175	
Thr	Val	Asp	Leu	Met	Glu	Leu	Ala	Gly	Leu	Gln	Pro	Cys	Gly	Val	Leu
			180					185					190		

Ala Glu Leu Val Asn Glu Asp Tyr Ser Met Met Arg Leu Pro Gln Ile  
 195 200 205  
 Leu Glu Phe Ala Arg Lys His Asn Ile Ala Val Ile Pro Val Thr Ser  
 210 215 220  
 Ile Ile Ala His Arg Met Leu Ser Asp Arg Leu Val Ser Lys Ile Ser  
 225 230 235 240  
 Ser Ala Arg Leu Pro Thr Ile Tyr Gly Asp Phe Thr Ile His Val Tyr  
 245 250 255  
 Glu Ser Leu Leu Glu Gly Met Gln His Leu Ala Leu Val Lys Gly Asn  
 260 265 270  
 Val Ala Gly Lys Ser Asn Val Leu Val Arg Val His Ser Glu Cys Val  
 275 280 285  
 Thr Gly Asp Ile Leu Gly Ser Lys Arg Cys Asp Cys Gly Glu Gln Leu  
 290 295 300  
 Ser Ser Ala Met Ser Tyr Ile Ala Glu Lys Gly Thr Gly Val Leu Val  
 305 310 315 320  
 Tyr Leu Arg Gly Gln Glu Gly Arg Gly Ile Gly Leu Gly His Lys Val  
 325 330 335  
 Arg Ala Tyr Ala Leu Gln Asp Asn Gly Tyr Asp Thr Val Asp Ala Asn  
 340 345 350  
 Leu Ala Met Gly Phe Pro Val Asp Ser Arg Glu Tyr Gly Ile Gly Ala  
 355 360 365  
 Gln Ile Leu Val Asp Leu Lys Leu Thr Thr Ile Lys Leu Ile Thr His  
 370 375 380  
 Asn Pro Gln Lys Tyr Phe Gly Leu Gln Gly Phe Gly Leu Ser Ile Thr  
 385 390 395 400  
 Glu Arg Val Pro Leu Pro Val Arg Ile Ser Glu Asp Asn Glu Gln Tyr  
 405 410 415  
 Leu Arg Thr Lys Gln Glu Arg Met Gly His Trp Leu Asp Leu Pro Cys  
 420 425 430  
 Cys Asn Asn Arg Val Gln  
 435

<210> 875

<211> 169

<212> PRT

<213> Chlamydia pneumoniae

<400> 875

Ile Ser His Ala Val Thr Ile Gly Tyr Asn Asn Phe Glu Glu Tyr Met  
 1 5 10 15  
 Lys Thr Leu Lys Gly His Leu Ser Ala Lys Asn Leu Arg Ile Ala Ile  
 20 25 30  
 Val Gly Ser Cys Phe Asn Gln Ala Met Ala Asp Ala Leu Val Ser Gly  
 35 40 45  
 Thr Gln Glu Thr Phe Leu Lys Phe Gly Gly Ser Glu Asp Gly Leu Met  
 50 55 60  
 Thr Ile Arg Val Pro Gly Ala Phe Glu Ile Pro Cys Thr Ile Lys Lys  
 65 70 75 80  
 Leu Leu Ser Ser Glu Arg Lys Phe Asp Ala Ile Val Ala Cys Gly Val  
 85 90 95  
 Leu Ile Gln Gly Glu Thr Asp His Tyr Asn Gln Ile Val Asn Gln Val  
 100 105 110  
 Ala Ala Gly Ile Gly Ala Leu Ser Leu Glu Phe Cys Leu Pro Ile Thr  
 115 120 125  
 Leu Ser Ile Val Ala Ala Pro Ser Ala Glu Ile Ala Trp Gln Arg Ser  
 130 135 140  
 Gly Ile Lys Gly Arg His Leu Gly Val Ser Gly Met Thr Thr Ala Ile  
 145 150 155 160  
 Glu Met Ala Thr Leu Phe Thr Gln Ile  
 165

<210> 876  
 <211> 472  
 <212> PRT  
 <213> *Chlamydia pneumoniae*

<400> 876  
 Leu Ile Ser Leu Asn Leu Lys Ile Leu Thr Lys Gln Arg Asp Arg Glu  
 1 5 10 15  
 Glu Ala Ser Met Leu Lys Ile Leu Lys Ile Lys Val Leu Val Phe Pro  
 20 25 30  
 Leu Ala Leu Leu Met Gly Cys Asn Ser Ile Gly Tyr Ala Gly Pro Gln  
 35 40 45  
 Gly Ser Leu Gln Thr Asn Ser Gln Thr Lys Val Lys Ile Gly Ser Glu  
 50 55 60  
 Val Trp Ile Glu Gln Lys Leu Arg Gln Tyr Pro Glu Leu Leu Trp Leu  
 65 70 75 80  
 Thr Glu Ser Gly Gly Ala Pro Leu Leu Thr Ser Thr Pro Ile Asp Met  
 85 90 95  
 Ala Tyr Ser Glu Lys Leu Phe Asn Lys Lys Val Pro Ala Leu Asp Ile  
 100 105 110  
 Ala Ile Arg Ser Met Ile His Leu His Leu Leu Ile Gln Gly Ser Arg  
 115 120 125  
 Gln Ser Tyr Met Gln Leu Ser Gln Ile Leu Pro Ser Glu Glu Gly Gly  
 130 135 140  
 Met Thr Phe Lys Gln Phe Gln Thr Ala His Lys Gln Leu Leu Phe Phe  
 145 150 155 160  
 Leu Asn Ser Pro Lys Ser Phe Asp Asn Thr Leu Arg Ile Leu Glu Thr  
 165 170 175  
 Ala Ile Val Leu Arg His Val Gly Cys Ser Ala Lys Ala Val Thr Thr  
 180 185 190  
 Phe Lys Pro Tyr Phe Thr Asp Ser Cys Pro Gln Ser Phe Tyr Ala Lys  
 195 200 205  
 Ala Leu His Val Leu Arg Thr Phe Pro Glu Leu Cys Pro Ser Tyr Ala  
 210 215 220  
 Arg Leu Ser Pro Glu Gln Gln Glu Val Leu Leu Ser Leu Arg Arg Leu  
 225 230 235 240  
 Gly Asn Tyr Asp Ser Leu Leu Asn Leu Thr Glu Val Pro Ser Ala Gln  
 245 250 255  
 Leu Leu Ser Ala Trp Arg Thr Arg Arg Ser Leu Ala Ile Leu Asp Leu  
 260 265 270  
 Tyr Leu Tyr Cys Leu Asp Thr Cys Gly Asp Lys Asn Cys Ser Gln Glu  
 275 280 285  
 Phe Tyr Ile Asn Phe Ala Pro Leu Leu Ser Met Leu Gln Gln His Ala  
 290 295 300  
 Thr Ile Glu Glu Ala Phe Ser Arg Tyr Phe Thr Tyr Arg Ala Asn Arg  
 305 310 315 320  
 Leu Gly Phe Glu Gly Thr Ser Arg Thr Asp Met Thr Leu Val Arg Leu  
 325 330 335  
 Ala Thr Leu Met Asn Leu Ser Pro Ser Glu Ala Ser Thr Leu Ala Trp  
 340 345 350  
 Ser Phe Lys Asn Leu Pro Ser Asp Glu Ala Glu Asn Leu Val Asn Ser  
 355 360 365  
 Phe Tyr Thr Val Gln Gly Glu His Ile Pro Leu Thr Phe Arg Gly Leu  
 370 375 380  
 Pro Ser Leu Val Ala Gly Leu Ser Val Ala Thr His Gly Ser Thr Val  
 385 390 395 400  
 Ser Pro Glu Asn Arg Leu Arg Gln Leu Tyr Ser Thr Met Leu Ser Leu  
 405 410 415  
 Leu Val Lys Ser Leu Arg Ser His Arg Glu Met Leu Asn Lys Gln Leu  
 420 425 430

Leu Pro Gln Gly Thr Val Leu Asp Phe Ser Glu Thr Thr Leu Ser Ser  
           435                          440                          445  
 Gly Gly Leu Asp Val Phe Ala Glu Ser Ile Ala Val Arg Ile His Leu  
           450                          455                          460  
 Asn Gly Ala Val Ser Ile Asn Leu  
 465                          470

<210> 877  
 <211> 220  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 877  
 Leu Lys Ile Met Lys Arg Val Ile Tyr Lys Thr Ile Phe Cys Gly Leu  
   1                  5                  10                  15  
 Thr Leu Leu Thr Ser Leu Ser Ser Cys Ser Leu Asp Pro Lys Gly Tyr  
           20                  25                  30  
 Asn Leu Glu Thr Lys Asn Ser Arg Asp Leu Asn Gln Glu Ser Val Ile  
           35                  40                  45  
 Leu Lys Glu Asn Arg Glu Thr Pro Ser Leu Val Lys Arg Leu Ser Arg  
           50                  55                  60  
 Arg Ser Arg Arg Leu Phe Ala Arg Arg Asp Gln Thr Gln Lys Asp Thr  
   65                  70                  75                  80  
 Leu Gln Val Gln Ala Asn Phe Lys Thr Tyr Ala Glu Lys Ile Ser Glu  
                   85                  90                  95  
 Gln Asp Glu Arg Asp Leu Ser Phe Val Ser Ser Ala Ala Glu Lys  
           100                  105                  110  
 Ser Ser Ile Ser Leu Ala Leu Ser Gln Gly Glu Ile Lys Asp Ala Leu  
           115                  120                  125  
 Tyr Arg Ile Arg Glu Val His Pro Leu Ala Leu Ile Glu Ala Leu Ala  
           130                  135                  140  
 Glu Asn Pro Ala Leu Ile Glu Gly Met Lys Lys Met Gln Gly Arg Asp  
   145                  150                  155                  160  
 Trp Ile Trp Asn Leu Phe Leu Thr Gln Leu Ser Glu Val Phe Ser Gln  
                   165                  170                  175  
 Ala Trp Ser Gln Gly Val Ile Ser Glu Asp Ile Ala Ala Phe Ala  
           180                  185                  190  
 Ser Thr Leu Gly Leu Asp Ser Gly Thr Val Ala Ser Ile Val Gln Gly  
           195                  200                  205  
 Glu Arg Trp Pro Glu Leu Val Asp Ile Val Ile Thr  
   210                  215                  220

<210> 878  
 <211> 465  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 878  
 Ser Ile Ala Thr Gly Glu Thr Met Leu Tyr Phe Ile Glu Gln Leu Asn  
   1                  5                  10                  15  
 Lys Leu Ser Thr Ser Phe Cys Val Phe Pro Met Ile Leu Leu Gly  
           20                  25                  30  
 Gly Phe Leu Thr Trp Lys Leu Arg Gly Leu Gln Phe His Gly Leu Lys  
           35                  40                  45  
 Leu Gly Phe Asn Leu Met Leu Gln Asn Lys Leu Asp Asp Ser Ser Ser  
           50                  55                  60  
 Lys Ala Asn Glu Val Ser Ser Tyr Glu Ala Val Ala Gly Ile Leu Ala  
   65                  70                  75                  80  
 Gly Asn Phe Gly Thr Gly Asn Ile Ala Gly Met Ala Val Ala Leu Ala  
                   85                  90                  95



Cys Gly Gly Pro Gly Ala Leu Val Trp Val Trp Leu Ala Ala Leu Leu  
 100 105 110  
 Gly Ala Ile Val Gln Tyr Ala Gly Ser Tyr Leu Gly Ser Lys Tyr Arg  
 115 120 125  
 Lys Pro Glu Gly Asn Thr Gly Glu Phe Ile Gly Gly Pro Ile Ala Cys  
 130 135 140  
 Leu Ala Phe Gly Met Arg Lys Lys Ile Leu Ala Gly Phe Phe Ala Leu  
 145 150 155 160  
 Phe Thr Ile Met Thr Ala Phe Cys Ala Gly Asn Cys Val Gln Val Ser  
 165 170 175  
 Cys Ile Val Pro Leu Cys Ala Glu Gly Thr Pro Gly Lys Leu Leu Val  
 180 185 190  
 Gly Ile Leu Leu Ala Leu Val Val Ile Pro Val Leu Ala Gly Gly Asn  
 195 200 205  
 Asn Arg Ile Leu Arg Phe Ser Ala Arg Val Ile Pro Phe Ile Ala Gly  
 210 215 220  
 Phe Tyr Cys Ile Ser Cys Gly Ile Ile Leu Phe Gln His Ala Ser Ala  
 225 230 235 240  
 Ile Leu Pro Ala Ile Lys Leu Ile Cys Ser Ser Ala Phe Gly Ile Lys  
 245 250 255  
 Ala Gly Leu Ala Gly Ile Gly Gly Tyr Thr Leu Ser Gln Val Ile Ser  
 260 265 270  
 Thr Gly Ile Asn Arg Ala Val Met Ala Thr Asp Cys Gly Ser Gly Met  
 275 280 285  
 Val Ser Ile Leu Gln Ala Asn Thr Lys Ser Lys Asn Pro Val Val Asp  
 290 295 300  
 Gly Leu Val Thr Leu Val Pro Pro Val Ile Val Met Val Val Cys Ser  
 305 310 315 320  
 Ile Thr Met Leu Val Leu Ile Val Ser Gly Ala Tyr Ser Ser Gly Ala  
 325 330 335  
 Gln Gly Thr Leu Met Val Met Ser Ala Phe Lys Asn Ser Leu Gly Ser  
 340 345 350  
 Leu Gly Ser Val Ile Val Ile Leu Ala Met Ala Leu Phe Gly Tyr Thr  
 355 360 365  
 Thr Ile Leu Thr Trp Phe Ala Cys Ala Glu Lys Ser Leu Gln Tyr Met  
 370 375 380  
 Ile Pro Gly Arg Arg Ala Asn Leu Trp Leu Lys Ala Ile Tyr Val Leu  
 385 390 395 400  
 Ile Ile Pro Leu Gly Gly Val Ile Asp Met Arg Met Ile Trp Ala Leu  
 405 410 415  
 Ser Asp Thr Gly Phe Ser Gly Met Val Ile Leu Asn Cys Ile Ala Leu  
 420 425 430  
 Ile Ala Leu Leu Lys Asp Val Leu Ser Thr Asn Arg Asp Val Ala Leu  
 435 440 445  
 Leu Lys Glu Arg Glu Cys Ser Val Ala Asp Pro Val Arg Asn Leu Asp  
 450 455 460  
 Ala  
 465

<210> 879  
 <211> 154  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 879  
 Arg Arg Arg Ile Met Gln Leu Leu Ser Pro Ala Phe Ala Tyr Gly Ala  
 1 5 10 15  
 Pro Ile Pro Lys Lys Tyr Thr Cys Gln Gly Ala Gly Ile Ser Pro Pro  
 20 25 30  
 Leu Thr Phe Val Asp Val Pro Gly Ala Ala Gln Ser Leu Ala Leu Ile  
 35 40 45

Val	Glu	Asp	Pro	Asp	Val	Pro	Lys	Glu	Ile	Arg	Ser	Asp	Gly	Leu	Trp
50						55					60				
Ile	His	Trp	Ile	Val	Tyr	Asn	Leu	Ser	Thr	Thr	Ile	Thr	Asn	Leu	Ala
65					70					75					80
Glu	Gly	Ala	Glu	Ile	Phe	Ala	Val	Gln	Gly	Leu	Asn	Thr	Ser	Gly	Lys
				85					90					95	
Pro	Val	Tyr	Glu	Gly	Pro	Cys	Pro	Pro	Asp	Lys	Gln	His	Arg	Tyr	Phe
			100					105					110		
Phe	Thr	Leu	Phe	Ala	Leu	Asp	Val	Val	Leu	Pro	Glu	Glu	Glu	Asn	Val
		115					120					125			
Thr	Arg	Asp	Gln	Leu	Tyr	Glu	Ala	Met	Glu	Phe	His	Ile	Ile	Glu	Gln
	130					135					140				
Ala	Glu	Leu	Met	Gly	Thr	Tyr	Glu	Lys	Ser						
145					150										

<210> 880  
 <211> 223  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 880															
Gly	Cys	Met	Ser	Thr	Val	Thr	Thr	Glu	Pro	Cys	Ser	Ser	Ile	His	Ile
1				5					10					15	
Ser	Leu	Asn	Asn	Asp	Trp	Arg	Asp	Ser	Gln	Pro	Tyr	Ser	Leu	Asp	Arg
			20					25					30		
Ala	Ser	Glu	Leu	Leu	His	Phe	Arg	Phe	Leu	Pro	Ser	Leu	Val	Phe	Ser
		35					40					45			
Asn	Trp	Lys	Val	Glu	Gln	Gln	Ile	Glu	Thr	Leu	Cys	His	Lys	Ser	Glu
	50					55					60				
Lys	Arg	Arg	Leu	Ile	Ser	Pro	Leu	Ala	Lys	Trp	Leu	Gly	Lys	Leu	His
65					70					75					80
Lys	Gln	Asp	Leu	Leu	Cys	Pro	Pro	Ala	Pro	Pro	Val	Ser	Val	Cys	Trp
			85						90					95	
Ile	Asn	Ala	His	Val	Gly	Tyr	Gly	Val	Phe	Ala	Arg	Asp	Glu	Ile	Ala
			100					105					110		
Pro	Trp	Thr	Tyr	Ile	Gly	Glu	Tyr	Thr	Gly	Ile	Leu	Arg	His	Arg	Gln
		115					120					125			
Ala	Ile	Trp	Met	Asp	Glu	Asn	Asp	Tyr	Cys	Phe	Arg	Tyr	Pro	Met	Pro
		130					135				140				
Leu	Phe	Thr	Leu	Arg	Tyr	Phe	Thr	Ile	Asp	Ser	Gly	Lys	Gln	Gly	Asn
145					150					155					160
Val	Thr	Arg	Phe	Ile	Asn	His	Ser	Glu	Gln	Pro	Asn	Ala	Glu	Ala	Ile
			165						170					175	
Gly	Val	Phe	Ser	Glu	Gly	Leu	Phe	His	Val	Ile	Ile	Arg	Thr	Val	Ala
			180					185					190		
Pro	Ile	Tyr	Ala	Gly	Gln	Glu	Ile	Cys	Tyr	His	Tyr	Gly	Pro	Leu	Tyr
		195					200					205			
Trp	Lys	His	Arg	Lys	Lys	Arg	Glu	Glu	Phe	Ile	Pro	Glu	Glu	Glu	
	210					215					220				

<210> 881  
 <211> 273  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 881															
Tyr	Arg	Ile	Leu	Trp	Lys	Val	Ser	Met	Gln	Gly	Phe	Phe	Pro	Leu	Ala
1				5					10					15	
Ser	Gly	Ser	Lys	Gly	Asn	Ser	Ala	Tyr	Leu	Gly	Thr	Asp	Ser	Cys	Lys
			20					25					30		

Ile Leu Ile Asp Leu Gly Val Ser Lys Gln Val Val Thr Arg Glu Leu  
 35 40 45  
 Leu Ser Met Asn Ile Asp Pro Glu Asp Ile Gln Ala Ile Phe Val Thr  
 50 55 60  
 His Glu His Ser Asp His Ile Ser Gly Ile Lys Ser Phe Val Lys Ala  
 65 70 75 80  
 Tyr Asn Thr Pro Ile Val Cys Asn Leu Glu Thr Ala Arg Ala Leu Cys  
 85 90 95  
 His Leu Leu Asp Ser His Pro Glu Phe Lys Ile Phe Ser Thr Gly Ser  
 100 105 110  
 Ser Phe Cys Phe Gln Asp Leu Glu Val Gln Thr Phe Asn Val Pro His  
 115 120 125  
 Asp Ala Val Asp Pro Val Ala Phe Ile Phe His Tyr Arg Glu Glu Lys  
 130 135 140  
 Leu Gly Phe Cys Thr Asp Leu Gly Trp Val Thr Ser Trp Ile Thr His  
 145 150 155 160  
 Glu Leu Tyr Asp Cys Asp Tyr Leu Leu Ile Glu Ser Asn His Ser Pro  
 165 170 175  
 Glu Leu Val Arg Gln Ser Gln Arg Pro Asp Val Tyr Lys Lys Arg Val  
 180 185 190  
 Leu Ser Lys Leu Gly His Ile Ser Asn Gln Glu Cys Gly Gln Leu Leu  
 195 200 205  
 Gln Lys Ile Ile Thr Pro Lys Leu Lys Lys Leu Tyr Leu Ala His Leu  
 210 215 220  
 Ser Thr Glu Cys Asn Thr Ala Glu Leu Ala Leu Ser Thr Val Ser Glu  
 225 230 235 240  
 Ser Ile Ala Ser Ile Thr Ser Ile Ala Pro Glu Ile Ala Leu Ala Gln  
 245 250 255  
 Gly Ile Thr Ser Pro Ile Tyr Phe Ser Arg Leu Glu Val Ala Cys Pro  
 260 265 270  
 Arg

<210> 882  
 <211> 807  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 882  
 Pro Met Ile Arg Glu Arg Lys Lys Ser Arg His Pro Arg Leu Pro Thr  
 1 5 10 15  
 Leu Pro Leu Ala Ala Lys Ala Ser Leu Tyr Leu Phe Phe Ala Cys Phe  
 20 25 30  
 Ser Gly Leu Ser Leu Trp Ser Phe His Arg Asp Gln Pro Cys Thr Gln  
 35 40 45  
 Asn Trp Ile Gly Leu Leu Gly Trp Ser Phe Ser Ser Phe Leu Leu Tyr  
 50 55 60  
 Phe Phe Gly Ala Ala Ala Phe Phe Ile Pro Leu Tyr Phe Leu Trp Leu  
 65 70 75 80  
 Ser Phe Leu Tyr Phe Arg Arg Thr Pro Arg Pro Leu Phe Phe Tyr Lys  
 85 90 95  
 Ala Ala Ala Phe Leu Ser Leu Pro Phe Cys Ser Ala Ile Leu Leu Ser  
 100 105 110  
 Met Leu Ser Pro Val Gly Thr Leu Pro Ala Leu Leu Asp Thr Arg Leu  
 115 120 125  
 Pro Lys Phe Ile Leu Gly Asn Pro Pro Val Ser Tyr Val Gly Gly  
 130 135 140  
 Ile Pro Phe Tyr Leu Phe Tyr Glu Gly Gln Ser Phe Cys Leu Lys His  
 145 150 155 160  
 Leu Ile Gly Ser Val Gly Thr Ala Leu Ile Phe Gly Phe Val Met Leu  
 165 170 175

Phe	Ser	Val	Leu	Tyr	Leu	Cys	Gly	Gly	Ile	Ala	Leu	Leu	Lys	Lys	Lys	180	185	190
Thr	Phe	Gln	Asp	Gly	Val	Lys	Lys	Ala	Phe	Cys	Ser	Phe	Phe	Gln	Thr	195	200	205
Cys	Phe	Lys	Asn	Leu	Lys	Lys	Leu	Ile	Asn	Arg	Arg	Asn	Tyr	Leu	Pro	210	215	220
Lys	Pro	Ser	Val	Pro	Phe	Val	Ser	Lys	Asn	Pro	Phe	Ser	Cys	Thr	Lys	225	230	235
Ser	Gln	Pro	Ser	Pro	Arg	Arg	Val	Ser	Glu	Thr	Ile	Ile	Leu	Asp	Gly	245	250	255
Ser	Ile	Ser	Pro	Leu	Pro	Gln	Glu	Glu	Ile	Pro	Gly	Ser	Lys	Lys	Glu	260	265	270
Ser	Phe	Phe	Leu	Thr	Pro	His	Pro	Cys	Lys	Arg	Phe	Leu	Thr	Lys	Phe	275	280	285
Val	Glu	Pro	Gln	Glu	Asn	Lys	Ala	Lys	Glu	Gly	Lys	Thr	Ile	Ala	Leu	290	295	300
Ser	Ser	Thr	Pro	Thr	Val	Val	Arg	Glu	Ser	Lys	Gly	Lys	Glu	Arg	Ala	305	310	315
Ala	Leu	Pro	Lys	Leu	Lys	Ser	Leu	Ala	Val	Pro	Glu	Asn	Asp	Leu	Pro	325	330	335
Gln	Tyr	His	Leu	Leu	Ser	Lys	Asn	Arg	Glu	Ala	Arg	Pro	Glu	Ser	Leu	340	345	350
Gln	Ala	Glu	Leu	Glu	Arg	Lys	Ala	Leu	Ile	Leu	Lys	Gln	Thr	Leu	Thr	355	360	365
Ser	Phe	Gly	Ile	Asp	Ala	Asp	Leu	Gly	Asn	Ile	Cys	Ser	Gly	Pro	Thr	370	375	380
Leu	Ala	Ala	Phe	Glu	Val	Leu	Pro	His	Ser	Gly	Val	Lys	Val	Gln	Lys	385	390	395
Ile	Lys	Ser	Leu	Glu	Asn	Asp	Ile	Ala	Leu	Lys	Leu	Gln	Ala	Ser	Ser	405	410	415
Ile	Arg	Ile	Ile	Ala	Pro	Ile	Pro	Gly	Lys	Ala	Ala	Val	Gly	Ile	Glu	420	425	430
Ile	Pro	Thr	Pro	Phe	Pro	Gln	Ala	Val	Asn	Phe	Arg	Asp	Leu	Leu	Glu	435	440	445
Asp	Tyr	Gln	Lys	Thr	Asn	Arg	Lys	Leu	Gln	Ile	Pro	Leu	Leu	Leu	Gly	450	455	460
Lys	Lys	Ala	Asn	Gly	Asp	Asn	Leu	Trp	Ala	Asp	Leu	Ala	Thr	Met	Pro	465	470	475
His	Leu	Ile	Ile	Ala	Gly	Thr	Thr	Gly	Ser	Gly	Lys	Ser	Val	Cys	Ile	485	490	495
Asn	Thr	Ile	Val	Met	Ser	Met	Ile	Met	Thr	Thr	Leu	Pro	Ser	Glu	Ile	500	505	510
Lys	Leu	Val	Ile	Ile	Asp	Pro	Lys	Lys	Val	Glu	Leu	Thr	Gly	Tyr	Ser	515	520	525
Gln	Leu	Pro	His	Met	Leu	Ser	Pro	Val	Ile	Thr	Glu	Ser	Arg	Glu	Val	530	535	540
Tyr	Asn	Ala	Leu	Val	Trp	Leu	Val	Lys	Glu	Met	Glu	Ser	Arg	Tyr	Glu	545	550	555
Ile	Leu	Arg	Tyr	Leu	Gly	Leu	Arg	Asn	Ile	Gln	Ala	Phe	Asn	Ser	Arg	565	570	575
Thr	Arg	Asn	Lys	Thr	Ile	Glu	Ala	Ser	Tyr	Asp	Arg	Glu	Ile	Arg	Glu	580	585	590
Thr	Met	Pro	Phe	Met	Val	Gly	Ile	Ile	Asp	Glu	Leu	Ser	Asp	Leu	Leu	595	600	605
Leu	Ser	Ser	Ser	Gln	Asp	Ile	Glu	Thr	Pro	Ile	Ile	Arg	Leu	Ala	Gln	610	615	620
Met	Ala	Arg	Ala	Val	Gly	Ile	His	Leu	Ile	Leu	Ala	Thr	Gln	Arg	Pro	625	630	635
Ser	Arg	Glu	Val	Ile	Thr	Gly	Leu	Ile	Lys	Ala	Asn	Phe	Pro	Ser	Arg	645	650	655

Ile	Ser	Phe	Lys	Val	Ser	Asn	Lys	Val	Asn	Ser	Gln	Ile	Ile	Ile	Asp
			660					665					670		
Glu	Pro	Gly	Ala	Glu	Asn	Leu	Met	Gly	Asn	Gly	Asp	Met	Leu	Val	Leu
		675					680					685			
Leu	Pro	Ser	Val	Phe	Gly	Thr	Ile	Arg	Ala	Gln	Gly	Ala	Tyr	Ile	Cys
	690					695					700				
Asp	Glu	Asp	Ile	Asn	Lys	Val	Ile	Gln	Asp	Leu	Cys	Ser	Arg	Phe	Pro
705					710					715					720
Thr	Gln	Tyr	Val	Ile	Pro	Ser	Phe	His	Ala	Phe	Asp	Asp	Ser	Asp	Ser
			725						730						735
Asp	Asn	Ser	Gly	Glu	Lys	Asp	Pro	Leu	Phe	Ala	Gln	Ala	Lys	Thr	Leu
			740					745					750		
Ile	Leu	Gln	Thr	Gly	Asn	Ala	Ser	Thr	Thr	Phe	Leu	Gln	Arg	Lys	Leu
		755					760					765			
Lys	Ile	Gly	Tyr	Ala	Arg	Ala	Ala	Ser	Leu	Ile	Asp	Gln	Leu	Glu	Glu
	770					775					780				
Ala	Arg	Ile	Ile	Gly	Pro	Ser	Glu	Gly	Ala	Lys	Pro	Arg	Gln	Ile	Leu
785					790					795					800
Ile	Gln	Asn	Pro	Leu	Glu	Gly									
				805											

<210> 883  
 <211> 188  
 <212> PRT  
 <213> Chlamydia pneumoniae

Asn	Lys	Lys	Phe	Ala	Val	His	Met	Pro	Val	Pro	Ile	Asp	Asn	Ser	Ser
1				5					10					15	
Arg	Asn	Leu	Gln	Glu	Val	Pro	Glu	Ser	Leu	Glu	Asp	Leu	Glu	Gln	His
			20					25					30		
Ala	Glu	Glu	Ser	Pro	Thr	His	Gln	Ser	Ala	Glu	Ser	Ser	Ser	Leu	Gln
		35					40					45			
Leu	Ser	Leu	Ala	Ser	Ser	Ala	Ile	Ser	Ser	Arg	Val	Glu	Gln	Leu	Ser
	50					55					60				
Ser	Leu	Val	Leu	Gly	Met	Glu	Asn	Ser	Asp	Phe	Ser	Ser	Leu	Arg	Asp
65					70					75					80
Val	Pro	Ile	Phe	Ser	Ala	Ile	Tyr	Glu	Ser	Ser	Thr	His	Thr	Pro	Val
			85						90					95	
Pro	Thr	Pro	Leu	Val	Gly	Val	Gly	Tyr	Ile	Asn	Gly	Ser	Gln	Ser	Gly
			100					105					110		
Tyr	Tyr	Asp	Thr	Gln	Arg	Glu	Ser	Leu	His	Leu	Ser	Gln	Leu	Leu	Gly
		115				120						125			
Ser	Arg	Arg	Val	Glu	Val	Val	Tyr	Asn	Gln	Gly	Asn	Phe	Met	Glu	Ala
	130					135					140				
Ser	Leu	Leu	Asn	Leu	Cys	Pro	Arg	Arg	Pro	Arg	Arg	Asp	Pro	Ser	Pro
145					150					155					160
Ile	Ser	Leu	Ala	Leu	Leu	Glu	Leu	Trp	Glu	Ala	Phe	Phe	Leu	Glu	His
				165					170					175	
Pro	Pro	Gly	Ser	Thr	Phe	Asn	Pro	Ile	Phe	Phe	Trp				
			180					185							

<210> 884  
 <211> 412  
 <212> PRT  
 <213> Chlamydia pneumoniae

Asn	Thr	Pro	Gln	Val	Ala	Leu	Leu	Ile	Gln	Tyr	Phe	Phe	Gly	Asn	Gly
1				5					10					15	

Ala Phe Tyr Val Arg Glu Ala Leu Arg Leu Thr Pro His Ala Gln Asn  
 20 25 30  
 Ile Val Leu Val Gly Ile Cys Pro Ser Leu Tyr Pro Glu His Pro Arg  
 35 40 45  
 Ser Phe Tyr Tyr Arg Val Ser Gly Asp Ile Gly Ser Arg Phe Asp Asp  
 50 55 60  
 Arg Gly Phe Val Asn Ser Gly Val Glu Thr Leu Pro Tyr Ser Ser Gly  
 65 70 75 80  
 Ser Phe Gly Ile Phe Trp Ile Ser Phe Thr Asp Pro Thr Phe Asn Phe  
 85 90 95  
 Ala Ile Val Asn Thr Phe Met Arg Thr Ala Gly Ile Asn Glu Val Ser  
 100 105 110  
 Arg Pro Met Thr Gln Asp Thr Glu Thr Ser Leu Ile Glu Met Arg Asp  
 115 120 125  
 Leu Ser Glu Gln Gln Glu Ala Asn Asn Thr Asp Ser Leu Glu Gln Glu  
 130 135 140  
 Glu Ser Leu Met Gly Ile Val Gly His Thr Val Gly Gly Val Ser Met  
 145 150 155 160  
 Thr Val Thr Ser Ser Pro Asn Ile Phe Tyr Arg Ile Gln Thr Leu Leu  
 165 170 175  
 Gly Leu Pro Glu Thr Leu Ala Glu Ala Glu Asn Pro Thr Phe Pro  
 180 185 190  
 Asn Ser Thr Ile Asp Ser Leu Ala Glu Ile Met Met Asn Leu Val Arg  
 195 200 205  
 Ile Ser Asp Ala Val Ser Ile Phe Trp Ile Phe Pro Ile Val Asp Thr  
 210 215 220  
 Thr Tyr Asn Gly Val Leu Leu Ala Val Cys Ile Gly Phe Phe Gly Ile  
 225 230 235 240  
 Asn Gly Ile Cys Ser Thr Phe Leu Met Leu Thr Asn Pro Arg Ser Arg  
 245 250 255  
 Arg Asp Arg Trp Arg Asn Leu Arg Ile Met Val Leu Cys Tyr Arg Ser  
 260 265 270  
 Leu Gly Ser Gly Met Asn Leu Phe Asp Leu Ser Asn Asn Val Arg Met  
 275 280 285  
 Ala Ala Arg Arg His Val Thr Ser Cys Thr Val Ala Leu Tyr Ala Met  
 290 295 300  
 Val Thr Leu Phe Gly Trp Thr Val Ala Ile Gln Asp Ala Leu Gln Tyr  
 305 310 315 320  
 Gly Phe Pro Ser Val Arg Asp Ala Phe Tyr Arg Tyr Cys Leu Arg His  
 325 330 335  
 Arg Tyr Cys Leu Thr Gln Arg Asn Glu Asp Ser Leu Gln Thr Thr Gly  
 340 345 350  
 Thr Arg Phe Gln Val Thr Arg Thr His Leu Glu Asp Gln Gln Met Val  
 355 360 365  
 Ala Ser Ile Leu Asn Leu Ser Val Phe Gly Leu Phe Phe Gly Phe Val  
 370 375 380  
 Gly Leu Met Thr Thr Phe Gly Gly Leu Glu Ile Ser Pro Ser Cys Arg  
 385 390 395 400  
 Trp Asp Ala Ala Asn Asn Arg Thr Val Gly Ile Phe  
 405 410

<210> 885  
 <211> 444  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 885  
 Leu Tyr Glu Leu Phe Ile Lys Ser Gly Ile Phe Ile Val Met Thr Trp  
 1 5 10 15  
 Leu Ser Gly Leu Tyr Phe Ile Cys Ile Ala Ser Leu Ile Phe Cys Ala  
 20 25 30

Ile	Gly	Val	Ile	Leu	Ala	Gly	Val	Ile	Leu	Leu	Ser	Arg	Lys	Leu	Phe
		35					40					45			
Ile	Lys	Val	His	Pro	Cys	Lys	Leu	Lys	Ile	Asn	Asp	Asn	Glu	Glu	Leu
	50					55					60				
Thr	Lys	Thr	Val	Glu	Ser	Gly	Gln	Thr	Leu	Leu	Val	Ser	Leu	Leu	Ser
65					70					75					80
Ser	Gly	Ile	Pro	Ile	Pro	Ser	Pro	Cys	Gly	Gly	Lys	Ala	Thr	Cys	Lys
			85						90					95	
Gln	Cys	Lys	Val	Arg	Val	Val	Lys	Asn	Ala	Asp	Glu	Pro	Leu	Glu	Thr
			100					105					110		
Asp	Arg	Ser	Thr	Phe	Ser	Lys	Arg	Gln	Leu	Glu	Glu	Gly	Trp	Arg	Leu
		115					120					125			
Ser	Cys	Gln	Cys	Lys	Val	Gln	His	Asp	Met	Ser	Leu	Glu	Ile	Glu	Glu
	130					135					140				
Arg	Tyr	Leu	Asn	Ala	Ser	Ser	Trp	Glu	Gly	Thr	Val	Ile	Ser	Asn	Asp
145					150					155					160
Asn	Val	Ala	Thr	Phe	Ile	Lys	Glu	Leu	Val	Val	Ala	Val	Asp	Pro	Asn
			165						170					175	
Lys	Pro	Ile	Pro	Phe	Lys	Pro	Gly	Gly	Tyr	Leu	Gln	Ile	Thr	Val	Pro
		180						185					190		
Ser	Tyr	Lys	Thr	Asn	Ser	Ser	Asp	Trp	Lys	Gln	Thr	Met	Ala	Pro	Glu
		195					200					205			
Tyr	Tyr	Ser	Asp	Trp	Glu	His	Phe	His	Leu	Phe	Asp	Gln	Val	Ile	Asp
	210					215					220				
Asn	Ser	Gln	Leu	Pro	Ala	Asp	Ser	Ala	Asn	Lys	Ala	Tyr	Ser	Leu	Ala
225					230					235					240
Ser	Tyr	Pro	Ala	Glu	Leu	Pro	Thr	Ile	Lys	Phe	Asn	Ile	Arg	Ile	Ala
			245						250					255	
Thr	Pro	Pro	Phe	Ile	Asn	Gly	Lys	Pro	Asn	Ser	Glu	Ile	Pro	Trp	Gly
		260						265					270		
Val	Cys	Ser	Ser	Tyr	Val	Phe	Ser	Leu	Lys	Pro	Gly	Asp	Lys	Ile	Thr
		275					280					285			
Val	Ser	Gly	Pro	Tyr	Gly	Glu	Ser	Phe	Met	Lys	Asp	Asp	Asp	Arg	Pro
	290					295					300				
Leu	Ile	Phe	Leu	Ile	Gly	Gly	Ala	Gly	Ser	Ser	Phe	Gly	Arg	Ser	His
305					310					315					320
Ile	Leu	Asp	Leu	Leu	Asn	Lys	His	Ser	Lys	Arg	Glu	Ile	Asp	Leu	
			325						330				335		
Trp	Tyr	Gly	Ala	Arg	Ser	Leu	Lys	Glu	Asn	Ile	Tyr	Gln	Glu	Glu	Tyr
		340						345					350		
Glu	Asn	Leu	Glu	Arg	Gln	Phe	Pro	Asn	Phe	His	Tyr	His	Leu	Val	Leu
	355						360					365			
Ser	Glu	Pro	Leu	Pro	Glu	Asp	Ile	Ala	Ala	Gly	Trp	Asp	Lys	Asp	Asp
	370					375					380				
Pro	Thr	Lys	Thr	Asn	Phe	Leu	Phe	Arg	Ala	Phe	Asn	Leu	Gly	Gln	Leu
385				390						395					400
Ser	Arg	Leu	Asp	Asn	Pro	Glu	Asp	Tyr	Leu	Tyr	Tyr	Val	Cys	Gly	Pro
			405						410					415	
Pro	Leu	His	Asn	Ser	Ser	Ile	Leu	Lys	Leu	Leu	Gly	Asp	Tyr	Gly	Val
		420					425					430			
Glu	Arg	Ser	Ser	Ile	Ile	Leu	Asp	Asp	Phe	Gly	Ser				
		435					440								

<210> 886

<211> 120

<212> PRT

<213> Chlamydia pneumoniae

<400> 886

Gly	Asp	Cys	Met	Leu	Ser	Arg	Ile	Val	Thr	Cys	Phe	Leu	Phe	Leu	Leu
1				5					10					15	

Ser	Ser	Leu	Pro	Leu	Phe	Ala	Glu	Glu	Glu	Ala	Ala	Gln	Ser	Lys	Asn
			20					25					30		
Thr	Phe	Val	Gln	Pro	Ala	Val	Met	Leu	Ala	Ile	Ala	Ile	Leu	Phe	Phe
		35					40					45			
Tyr	Phe	Ile	Leu	Trp	Arg	Pro	Glu	Gln	Lys	Arg	Arg	Lys	Ala	Met	Glu
		50				55					60				
Lys	Arg	Lys	Asn	Asp	Leu	Ala	Lys	Gly	Asp	Lys	Val	Thr	Ala	Met	Gly
65					70					75					80
Ile	Ile	Gly	Thr	Val	Asp	Asp	Ile	Arg	Glu	His	Thr	Val	Ile	Leu	Asn
				85					90					95	
Ile	Ala	Ser	Gly	Lys	Val	Glu	Val	Leu	Lys	Gly	Ala	Ile	Ser	Glu	Ile
			100					105					110		
Leu	Lys	Pro	Asn	Asp	Asn	Lys	Ser								
			115				120								

<210> 887

<211> 406

<212> PRT

<213> Chlamydia pneumoniae

<400> 887

Ala	Ser	Ile	Leu	Thr	Met	Ser	Thr	Met	Gln	Asn	Cys	Pro	His	Phe	Gly
1				5					10					15	
Val	Cys	Gly	Gly	Cys	Ser	Phe	Pro	Gln	Ser	Asn	Tyr	Ser	Asp	Ser	Leu
			20					25					30		
Lys	Lys	Lys	Glu	Glu	Leu	Leu	His	Gln	Leu	Phe	Ala	Pro	Leu	Val	Pro
		35					40					45			
Ser	Asp	Met	Ile	Ala	Pro	Ile	Ile	Pro	Cys	Ser	Pro	Ser	Leu	Arg	Gly
		50				55					60				
Arg	Asn	Lys	Met	Glu	Phe	Ser	Phe	Phe	Gln	Thr	Tyr	Glu	Gly	Glu	Lys
65					70					75					80
Ser	Leu	Gly	Phe	Ile	Ser	Ser	Thr	Lys	Pro	Lys	Lys	Gly	Ile	Pro	Val
				85					90					95	
Thr	Thr	Cys	Leu	Leu	Ile	His	Glu	Gln	Thr	Met	Asp	Ile	Leu	Lys	Leu
			100					105					110		
Thr	Arg	Glu	Trp	Trp	Asp	Lys	His	Pro	Glu	Leu	Met	Ala	Tyr	Phe	Pro
			115				120					125			
Pro	Lys	Asn	Lys	Gly	Ser	Leu	Cys	Thr	Leu	Thr	Val	Arg	Thr	Gly	Ser
						135					140				
Pro	Gln	Gln	Asn	Phe	Met	Val	Ile	Leu	Thr	Thr	Ser	Gly	Thr	Pro	Glu
145					150					155					160
Tyr	Arg	Val	Asn	Glu	Ala	Cys	Ile	Asp	Glu	Trp	Lys	Glu	Ile	Leu	Leu
				165					170					175	
Ser	Ser	Ser	Leu	Asn	Ile	Ala	Ser	Ile	Tyr	Trp	Glu	Glu	Lys	Val	Ala
			180					185					190		
Ala	Arg	Gly	Ile	Ser	Thr	Tyr	Tyr	Glu	Thr	Lys	Leu	Leu	Tyr	Gly	Ala
			195				200					205			
Pro	Ser	Ile	Gln	Gln	Lys	Leu	Ser	Leu	Pro	Ser	Asp	Gly	Asn	Ser	Ala
						215					220				
Ser	Phe	Ser	Leu	Arg	Pro	Arg	Ser	Phe	Phe	Gln	Pro	Gln	Ile	Thr	Gln
225					230					235					240
Ala	Ala	Lys	Ile	Ile	Glu	Thr	Ala	Lys	Glu	Phe	Ile	Asn	Pro	Glu	Gly
				245					250					255	
Ser	Glu	Thr	Leu	Leu	Asp	Leu	Tyr	Cys	Gly	Ala	Gly	Thr	Ile	Gly	Ile
			260					265					270		
Met	Leu	Ser	Pro	Tyr	Val	Lys	Asn	Val	Ile	Gly	Val	Glu	Ile	Ile	Pro
							280					285			
Asp	Ala	Val	Ala	Ser	Ala	Gln	Glu	Asn	Ile	Lys	Ala	Asn	Asn	Lys	Glu
						295					300				
Asp	Cys	Val	Glu	Val	Tyr	Leu	Glu	Asp	Ala	Lys	Ala	Phe	Cys	Lys	Arg
305					310					315					320



Asn	Glu	Asn	Cys	Lys	Ala	Pro	Asp	Val	Ile	Ile	Ile	Asp	Pro	Pro	Arg
				325					330					335	
Cys	Gly	Met	Gln	Ser	Lys	Val	Leu	Lys	Tyr	Ile	Leu	Arg	Ile	Gly	Ser
			340					345					350		
Pro	Lys	Ile	Val	Tyr	Ile	Ser	Cys	Asn	Pro	Lys	Thr	Gln	Phe	Gln	Glu
		355					360					365			
Cys	Ala	Asp	Leu	Ile	Ser	Gly	Gly	Tyr	Arg	Ile	Lys	Lys	Met	Gln	Pro
	370					375					380				
Ile	Asp	Gln	Phe	Pro	Tyr	Ser	Thr	His	Leu	Glu	Asn	Ile	Ile	Leu	Leu
385					390					395					400
Glu	Arg	Glu	Ile	Asp	Pro										
				405											

<210> 888

<211> 127

<212> PRT

<213> Chlamydia pneumoniae

<400> 888

Arg	Thr	Leu	Phe	Met	Ala	Leu	Lys	Asp	Thr	Ala	Lys	Lys	Met	Lys	Asp
1				5					10					15	
Leu	Leu	Asp	Ser	Ile	Gln	His	Asp	Leu	Ala	Lys	Ala	Glu	Lys	Gly	Asn
			20					25					30		
Lys	Ala	Ala	Ala	Gln	Arg	Val	Arg	Thr	Asp	Ser	Ile	Lys	Leu	Glu	Lys
		35					40					45			
Val	Ala	Lys	Leu	Tyr	Arg	Lys	Glu	Ser	Ile	Lys	Ala	Glu	Lys	Ser	Gly
	50					55					60				
Leu	Leu	Lys	Arg	Lys	Pro	Ser	Thr	Lys	Ala	Pro	Ala	Lys	Val	Lys	Lys
65					70					75					80
Thr	Ala	Glu	Lys	Lys	Ala	Pro	Lys	Lys	Ser	Ser	Ala	Ala	Ala	Ala	Lys
				85					90					95	
Thr	Ser	Lys	Ala	Val	Lys	Ala	Ser	Lys	Pro	Ala	Ser	Lys	Lys	Thr	Ala
			100					105					110		
Ala	Lys	Lys	Val	Lys	Lys	Pro	Ser	Lys	Ala	Arg	Gly	Phe	Arg	Lys	
		115					120					125			

<210> 889

<211> 822

<212> PRT

<213> Chlamydia pneumoniae

<400> 889

Met	Lys	Lys	Leu	Tyr	His	Pro	Thr	Leu	Phe	Leu	Arg	Pro	Leu	Ile	Arg
1				5					10					15	
Leu	Ser	Leu	Ile	Phe	Ala	Leu	Ser	Leu	Thr	Leu	Ile	Ser	Gly	Asn	Phe
			20					25					30		
Pro	Gln	Gln	Lys	Ser	Phe	Gly	His	Cys	Cys	Ala	Asp	Met	His	Ser	Ala
		35					40					45			
Leu	Ile	Ser	Gly	Lys	Asn	Cys	Glu	Glu	Leu	Phe	Ala	Asp	Phe	Ile	Glu
	50					55					60				
Arg	Val	Leu	Ala	Asp	Arg	Glu	Thr	Leu	Thr	Ala	Arg	Asp	Trp	Gly	Thr
65					70					75					80
Val	Val	Val	Leu	Val	Arg	Glu	Tyr	Leu	Leu	Lys	Cys	Ile	Arg	Lys	Gly
				85					90					95	
Asp	Cys	Asp	Tyr	Gly	Val	Lys	Ile	Leu	Gln	Lys	Leu	Leu	Ala	Leu	Arg
			100					105					110		
Leu	Pro	Lys	Asp	Ala	Arg	Lys	Asp	Leu	Gln	Ile	Leu	Trp	His	Arg	Leu
		115					120					125			
Asn	Pro	Glu	Gln	Ala	Pro	Leu	Arg	Asp	Val	Val	Asp	Gln	Leu	Phe	Thr
		130					135					140			

Ile	Gly	Cys	His	Glu	Ser	Leu	Gln	Asp	His	Leu	Leu	Phe	Glu	Leu	Tyr	145	150	155	160
Thr	Val	Thr	Leu	His	Ser	Gly	Tyr	Glu	Asn	Arg	Lys	Gln	Asp	Met	Leu	165	170	175	
Leu	Ala	Lys	Glu	Gln	Gly	Asp	Tyr	Lys	Lys	Ala	Ile	Glu	Leu	Ala	Lys	180	185	190	
Glu	Leu	Val	Ala	Ala	Leu	Glu	Lys	Gly	Ser	Cys	Ser	Pro	His	Pro	Glu	195	200	205	
Ile	Val	Gln	Ile	Glu	Lys	Thr	Phe	Leu	Gln	Lys	Thr	Leu	Leu	Ala	Leu	210	215	220	
Gln	Ile	Lys	Val	Ala	Gln	Glu	Ala	Gln	Glu	Ser	Cys	Asp	Ala	Leu	Leu	225	230	235	240
Thr	Pro	Tyr	Cys	Leu	Ser	Glu	Ile	Ala	Tyr	Thr	Glu	Ala	Met	Asp	Ala	245	250	255	
Leu	Val	Leu	Arg	Ile	Ala	Arg	Gly	Glu	Val	Ser	Arg	Thr	Asn	Glu	Val	260	265	270	
Asp	Ser	Val	Leu	Leu	Ser	His	Ala	Leu	Gln	His	Leu	Pro	Phe	Ala	Arg	275	280	285	
Glu	Lys	Ala	Ile	Pro	Glu	Leu	Glu	Val	Leu	Ile	Asp	His	Gly	Ala	Tyr	290	295	300	
Leu	Glu	Ser	Thr	Leu	Leu	Tyr	Tyr	Ala	Tyr	Phe	Ser	Leu	Leu	Glu	Leu	305	310	315	320
Tyr	His	Gln	Asn	Lys	Asp	Phe	Ala	Ser	Leu	Glu	Arg	Leu	Leu	Glu	Lys	325	330	335	
Gly	Asp	Ala	Val	Phe	Val	Pro	Glu	His	Pro	Tyr	Phe	Pro	Glu	Tyr	Gly	340	345	350	
Phe	Phe	Leu	Gly	Ala	Tyr	Phe	Tyr	Ala	Lys	Gly	Lys	Tyr	Glu	Ser	Ala	355	360	365	
Glu	Lys	Val	Phe	Leu	Gln	Ile	Ile	Asp	Pro	Ala	Val	Lys	Leu	Gly	Ala	370	375	380	
Thr	Phe	Ala	Arg	Ala	Tyr	Glu	Tyr	Leu	Gly	Cys	Ile	Ala	Tyr	Val	Gln	385	390	395	400
Asn	His	Tyr	Glu	Lys	Ala	Glu	Glu	Tyr	Phe	Leu	Arg	Ala	Tyr	Lys	Ser	405	410	415	
Trp	Gly	Arg	Glu	Glu	Ser	Gly	Ile	Gly	Leu	Phe	Leu	Ala	Tyr	Ala	Val	420	425	430	
Gln	Lys	Lys	Lys	Thr	Ala	Cys	Glu	Asp	Met	Leu	Tyr	His	Pro	Lys	Phe	435	440	445	
Ser	Phe	Thr	Tyr	Arg	His	Leu	Leu	Asp	Ser	Leu	Cys	Ser	Leu	Ser	Tyr	450	455	460	
Pro	His	Gly	Glu	Asn	Lys	Gly	Ser	Ser	Ala	Ile	Gln	Arg	Val	His	Arg	465	470	475	480
Ala	Val	Pro	Glu	Leu	Ser	Glu	Ile	Tyr	Ser	Arg	Cys	Ile	Tyr	Asp	Met	485	490	495	
Ile	Lys	Tyr	Arg	Asn	Val	Thr	Tyr	Thr	His	Pro	Ile	Ile	Glu	Leu	Ala	500	505	510	
Tyr	Asn	Gln	Val	Arg	Asn	Leu	Glu	Lys	Arg	Asn	Leu	Glu	Glu	Ile	Cys	515	520	525	
Arg	Asp	Ala	Gln	Asp	Pro	Glu	Tyr	Asp	Lys	Ala	Leu	Ala	Phe	Trp	Gly	530	535	540	
Ala	Leu	Gln	Ser	Gly	Ala	Ser	Val	Pro	Arg	Ser	Leu	Ile	Glu	Ser	Ser	545	550	555	560
Asp	Val	Asp	Glu	Ala	Arg	Ile	Thr	Ile	Arg	Cys	Tyr	Glu	Ala	Leu	Tyr	565	570	575	
Phe	His	Asn	Pro	Asp	Ala	Ile	Ala	Met	Leu	Pro	Gln	Ala	Phe	Ser	Glu	580	585	590	
Glu	Cys	Asn	Ser	Trp	Gln	Thr	Ala	Leu	Arg	Leu	Val	Trp	Thr	Leu	Val	595	600	605	
Arg	Pro	Lys	Gly	Ala	Pro	Asn	His	Ala	Lys	Tyr	Trp	Asp	His	Leu	Val	610	615	620	

Leu Arg Pro His Gly Asp Ser Leu Tyr Phe Phe Gly Tyr Asp Leu Gln  
 625 630 635 640  
 Glu Tyr Leu Ile Gly Lys Glu Asp Ala Leu Lys His Leu Ser Val Phe  
 645 650 655  
 Ala Glu Leu Phe Pro Lys Ser Ser Leu Leu Ser Leu Val Tyr Tyr Leu  
 660 665 670  
 Gln Gly Tyr Ser Glu Ser Ser Ala Leu Arg Lys Val Gly Trp Phe Val  
 675 680 685  
 Lys Ala Leu Glu Glu Phe Thr Glu Ile Ser Trp Ser Gly Glu His Met  
 690 695 700  
 Lys Thr Trp Ala Tyr Ile Tyr Tyr Met Val Lys Leu Asp Leu Ala Asp  
 705 710 715 720  
 Thr Tyr Ile Ser Leu Gly Asn Phe Ser Gln Ala Val His Ile Leu Glu  
 725 730 735  
 Glu Val Lys Glu Asp Trp Gln Val Ala Ser His Pro Lys Leu His Phe  
 740 745 750  
 Leu Lys Gly Glu Asp Cys Tyr Leu Ala Met Glu Leu Arg Trp Val Glu  
 755 760 765  
 Gly Leu Ala Tyr Ala Tyr Phe Gln Leu His Glu Thr Ala His Leu Ser  
 770 775 780  
 Asn His Leu Leu Glu His Val Glu Lys Asn Leu Ile Ser Pro Arg Ser  
 785 790 795 800  
 Tyr Arg Asp Tyr Tyr Gly Glu Ser Leu Gln Arg Thr Leu Gly Leu Cys  
 805 810 815  
 Gln Arg Phe Leu Gly Val  
 820

<210> 890

<211> 441

<212> PRT

<213> *Chlamydia pneumoniae*

<400> 890

Ala Glu Arg Arg Phe Cys Val Lys Arg Ala Ile Ile Ile Gly Ala Gly  
 1 5 10 15  
 Ile Ser Gly Leu Ala Ala Gly Trp Trp Leu His Lys Lys Phe Pro Gln  
 20 25 30  
 Ala Glu Ile Leu Val Leu Asp Lys Glu Ala Tyr Ala Gly Gly Phe Val  
 35 40 45  
 Arg Thr Glu Ser Pro Gln Gly Phe Ser Phe Asp Leu Gly Pro Lys Gly  
 50 55 60  
 Phe Leu Thr Arg Gly Asp Gly Glu Tyr Thr Leu Lys Leu Ile His Glu  
 65 70 75 80  
 Leu Gly Leu Gln Asn Ser Leu Ile Phe Ser Asp Arg Ala Ala Lys Asn  
 85 90 95  
 Arg Phe Val Tyr Tyr Arg Gly Lys Ala His Lys Ile Ser Thr Trp Thr  
 100 105 110  
 Leu Leu Arg Lys Gly Leu Leu Pro Ser Leu Ile Lys Asp Phe Arg Ala  
 115 120 125  
 Pro Cys Tyr Thr Gln Asp Ser Ser Val Gln Asp Phe Leu Lys Arg His  
 130 135 140  
 Ser Ser Gln Asn Phe Thr Ser Tyr Ile Leu Asp Pro Leu Ile Thr Ala  
 145 150 155 160  
 Ile Arg Ala Gly His Ser Ser Ile Leu Ser Thr His Met Ala Phe Pro  
 165 170 175  
 Glu Leu Ala Lys Arg Glu Ala Ser Ser Gly Ser Leu Leu Arg Ser Tyr  
 180 185 190  
 Leu Lys Asn Arg Ser Pro Lys Lys Ser Lys Thr Asp Arg Tyr Leu Ala  
 195 200 205  
 Ser Leu Ser Pro Ser Met Gly Thr Leu Ile Thr Thr Ile Gln Glu Lys  
 210 215 220

Leu Pro Ala Thr Trp Lys Phe Ser Thr Ser Val Thr His Ile Asp Cys  
 225 230 235 240  
 Ser Pro Lys Glu Ala Cys Val Thr Thr Pro Ser Glu Thr Phe Phe Ala  
 245 250 255  
 Asp Met Val Ile Tyr Thr Gly Pro Leu Gln Gln Leu Pro Val Leu Leu  
 260 265 270  
 Pro Asn Tyr Gly Ile Glu Asn Leu Ser Lys Arg Val Leu Pro Trp Asn  
 275 280 285  
 Leu Ser Ser Ile Ser Leu Gly Trp His His Ala Asn Phe Ser Leu Pro  
 290 295 300  
 Lys Gly Tyr Gly Met Leu Phe Ala Asp Glu Leu Pro Leu Leu Gly Ile  
 305 310 315 320  
 Val Trp Asn Ser Gln Ile Phe Pro Gln Ala Thr Pro Gly Lys Thr Val  
 325 330 335  
 Leu Ser Leu Leu Ile Glu Gly Lys Trp Arg Glu Ser Glu Ala His Ala  
 340 345 350  
 Phe Ala Ile Ala Ala Leu Ser Glu Tyr Leu Asn Ile Asn Gln Lys Pro  
 355 360 365  
 Asp Ala Phe Ala Leu Phe Ser Ser Gln Asp Gly Met Pro Gln His Ala  
 370 375 380  
 Val Gly Phe Leu Glu Arg Lys Glu Arg Ile Leu Pro His Leu Pro Gly  
 385 390 395 400  
 Asn Leu Lys Ile Val Gly Gln Asn Ile Ala Gly Pro Gly Leu Asn Arg  
 405 410 415  
 Cys Ile Ala Ser Ala Tyr His Ala Ile Cys Asp Leu His Thr Glu Glu  
 420 425 430  
 Thr Leu Ala Gln Pro Gln Ser Ser Leu  
 435 440

<210> 891

<211> 460

<212> PRT

<213> Chlamydia pneumoniae

<400> 891

Phe Leu Met Phe Asn Val Asn Phe Lys Phe Leu Glu Gly Leu His Gln  
 1 5 10 15  
 Pro Ala Pro Arg Tyr Thr Ser Tyr Pro Thr Ala Leu Glu Trp Glu Pro  
 20 25 30  
 Ser Asp Ala Ala Pro Ala Leu Leu Ala Phe Gln Arg Ile Arg Glu Asn  
 35 40 45  
 Pro Gln Pro Leu Ser Leu Tyr Phe His Ile Pro Phe Cys Gln Ser Met  
 50 55 60  
 Cys Leu Tyr Cys Gly Cys Ser Val Val Leu Asn Arg Arg Glu Asp Ile  
 65 70 75 80  
 Val Glu Ala Tyr Ile Asn Thr Leu Ile Gln Glu Met Lys Leu Val Val  
 85 90 95  
 Glu Thr Ile Gly Phe Arg Pro Gln Val Ser Arg Ile His Phe Gly Gly  
 100 105 110  
 Gly Thr Pro Ser Arg Leu Ser Arg Glu Leu Phe Thr Leu Leu Phe Asp  
 115 120 125  
 His Ile His Lys Leu Phe Asp Leu Ser His Ala Glu Glu Ile Ala Ile  
 130 135 140  
 Glu Val Asp Pro Arg Ser Leu Arg Asn Asp Met Glu Lys Ala Asp Phe  
 145 150 155 160  
 Phe Gln Asn Val Gly Phe Asn Arg Val Ser Leu Gly Val Gln Asp Thr  
 165 170 175  
 Gln Ala Asp Val Gln Glu Ala Val Arg Arg Arg Gln Ser His Glu Glu  
 180 185 190  
 Ser Leu Lys Ala Tyr Glu Lys Phe Lys Glu Leu Ala Phe Gln Ser Ile  
 195 200 205

Asn	Ile	Asp	Leu	Ile	Tyr	Gly	Leu	Pro	Lys	Gln	Thr	Lys	Glu	Ser	Phe
210						215					220				
Ser	Lys	Thr	Ile	Gln	Asp	Ile	Leu	Ala	Met	Tyr	Pro	Asp	Arg	Leu	Ala
225					230					235					240
Leu	Phe	Ser	Phe	Ala	Ser	Val	Pro	Trp	Ile	Lys	Pro	His	Gln	Lys	Ala
				245					250					255	
Met	Lys	Ala	Ser	Asp	Met	Pro	Ser	Met	Glu	Glu	Lys	Phe	Ala	Ile	Tyr
			260					265					270		
Ser	Gln	Ser	Arg	His	Leu	Leu	Thr	Lys	Ala	Gly	Tyr	Gln	Ala	Ile	Gly
		275					280					285			
Met	Asp	His	Phe	Ser	Leu	Pro	His	Asp	Pro	Leu	Thr	Leu	Ala	Phe	Lys
	290					295					300				
Asn	Lys	Thr	Leu	Ile	Arg	Asn	Phe	Gln	Gly	Tyr	Ser	Leu	Pro	Pro	Glu
305					310					315					320
Glu	Asp	Leu	Leu	Gly	Leu	Gly	Met	Thr	Ser	Thr	Ser	Phe	Ile	Arg	Gly
				325				330						335	
Ile	Tyr	Leu	Gln	Asn	Ala	Lys	Thr	Leu	Glu	Glu	Tyr	His	Asn	Thr	Val
			340					345					350		
Leu	Arg	Gly	Thr	Phe	Ala	Thr	Val	Lys	Ser	Lys	Ile	Leu	Thr	Glu	Asp
		355					360					365			
Asp	Arg	Ile	Arg	Lys	Trp	Ala	Ile	His	Lys	Leu	Met	Cys	Thr	Phe	Thr
	370					375					380				
Ile	Asn	Lys	Glu	Glu	Phe	Phe	Asn	Leu	Phe	Gly	Tyr	Glu	Phe	Asp	Thr
385					390					395					400
Tyr	Phe	Ile	Glu	Ser	Arg	Asp	Arg	Leu	Ile	Ser	Met	Glu	Thr	Thr	Gly
				405				410						415	
Leu	Ile	His	Asn	Ser	Pro	Gly	Ser	Leu	Lys	Val	Thr	Pro	Leu	Gly	Glu
			420					425					430		
Leu	Phe	Val	Arg	Val	Ile	Ala	Thr	Ala	Phe	Asp	His	Tyr	Phe	Leu	Asn
		435					440					445			
Lys	Val	Ser	Lys	Lys	Glu	Cys	Phe	Ser	Ala	Ser	Ile				
	450					455					460				

<210> 892

<211> 337

<212> PRT

<213> Chlamydia pneumoniae

<400> 892

Ser	Thr	Leu	His	Asn	Trp	Asp	Ser	Met	Ser	Ala	Phe	Phe	Asp	Leu	Leu
1				5					10					15	
Lys	Ser	Gln	Thr	Ala	Ser	His	Pro	Pro	Ile	Trp	Leu	Leu	Arg	Gln	Val
			20					25					30		
Gly	Arg	Tyr	Met	Pro	Pro	Tyr	Gln	Glu	Leu	Lys	Gly	Ser	Gln	Ser	Leu
	35						40					45			
Lys	Thr	Phe	Phe	His	Asn	Thr	Glu	Ala	Ile	Val	Glu	Ala	Thr	Leu	Leu
	50					55				60					
Gly	Pro	Ser	Leu	Leu	His	Val	Asp	Ala	Ala	Ile	Leu	Phe	Ala	Asp	Ile
65					70					75					80
Leu	Ser	Ile	Leu	Asp	Gly	Phe	Ala	Val	Thr	Tyr	Asp	Phe	Ala	Pro	Gly
				85				90						95	
Pro	Arg	Ile	Gln	Phe	Ser	Pro	Glu	Gln	Pro	Phe	Thr	Phe	Thr	Ser	Asp
			100					105					110		
Pro	Gln	Thr	Ile	Phe	Ser	Tyr	Leu	Leu	Asp	Ala	Ile	Arg	Thr	Leu	Lys
		115					120					125			
Gln	Lys	Leu	Pro	Val	Pro	Leu	Ile	Val	Phe	Ala	Ala	Ser	Pro	Phe	Thr
	130					135					140				
Leu	Ala	Cys	Tyr	Leu	Ile	Asp	Gly	Gly	Ala	Ser	Lys	Asp	Phe	Ser	Lys
145					150					155					160
Thr	Met	Ser	Phe	Leu	Tyr	Val	Tyr	Pro	Glu	Lys	Phe	Asp	Gln	Leu	Ile
				165					170					175	

Ser Thr Ile Ile Glu Gly Thr Ala Ile Tyr Leu Lys Thr Gln Met Asp  
 180 185 190  
 Ala Gly Ala Ala Ala Val Gln Leu Phe Glu Ser Ser Ser Leu Arg Leu  
 195 200 205  
 Pro Ser Ala Leu Phe Thr Arg Tyr Val Thr Glu Pro Asn Arg Arg Leu  
 210 215 220  
 Ile Ala Lys Leu Lys Glu Gln Ala Ile Pro Val Ser Leu Phe Cys Arg  
 225 230 235 240  
 Cys Phe Glu Glu Asn Phe Tyr Thr Leu Gln Ala Thr Gln Ala Asp Thr  
 245 250 255  
 Leu His Pro Asp Tyr His Val Asp Leu His Arg Ile Gln Lys Asn Leu  
 260 265 270  
 Met Leu Ser Leu Gln Gly Asn Leu Asp Pro Ala Ile Phe Leu Leu Pro  
 275 280 285  
 Gln Glu Lys Leu Leu His Tyr Val Glu Ala Phe Leu Val Pro Leu Arg  
 290 295 300  
 Thr Tyr Pro Asn Phe Ile Phe Asn Ser Gly His Gly Ile Leu Pro Glu  
 305 310 315 320  
 Thr Pro Leu Glu Asn Val Gln Leu Val Val Ser Tyr Val Gln Arg Gln  
 325 330 335  
 Leu

<210> 893  
 <211> 1087  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 893  
 Asn Phe Met Ala Met Asp Phe Asn Pro Val Asn Leu Asp Phe Ser Ile  
 1 5 10 15  
 Ser Lys Glu Phe Lys Glu Glu Thr Leu Pro Leu Leu Leu Glu Asn Ile  
 20 25 30  
 His Pro Gly Ala Thr Ala Phe Leu Ala Ala Lys Met Phe His Asp Cys  
 35 40 45  
 Arg Ala Ser Val Ile Met Ile Thr Thr Pro Ala Arg Leu Asp Asp Leu  
 50 55 60  
 Phe Glu Asn Leu Arg Thr Phe Leu Asp Gln Ala Pro Val Glu Phe Pro  
 65 70 75 80  
 Ser Ser Glu Ile Asp Leu Ser Pro Lys Leu Val Asn Ile Asp Ala Val  
 85 90 95  
 Gly Lys Arg Asp His Leu Leu Tyr Ser Leu Asn Gln His Arg Ala Pro  
 100 105 110  
 Ile Phe Cys Val Thr Thr Leu Lys Ala Leu Leu Glu Lys Thr Arg Ser  
 115 120 125  
 Pro Gln Ala Thr Ser Gln Gln His Leu Asp Leu Ala Val Gly Asp Val  
 130 135 140  
 Leu Asp Pro Glu Ala Thr Thr Glu Leu Cys Lys Ser Leu Gly Tyr Ser  
 145 150 155 160  
 Gln Val Met Leu Thr Ser Glu Lys Gly Glu Phe Ser Cys Arg Gly Gly  
 165 170 175  
 Ile Val Asp Ile Phe Pro Leu Ser Ser Pro Glu Pro Phe Arg Ile Glu  
 180 185 190  
 Phe Trp Gly Glu Lys Ile Ile Ser Ile Arg Ser Tyr Asn Pro Ser Asp  
 195 200 205  
 Gln Leu Ser Thr Gly Lys Val Ser Lys Ile Ser Ile Ser Pro Ala Tyr  
 210 215 220  
 Thr Glu Glu Ala Ser Gly Gly Asn Tyr Ser His Ser Leu Leu Asp Tyr  
 225 230 235 240  
 Phe Ser Thr Pro Pro Leu Tyr Leu Phe Asp Asn Leu Glu Ile Leu Glu  
 245 250 255

Asp	Asp	Phe	Ala	Asp	Ile	Ser	Gly	Thr	Leu	Ser	Ser	Leu	Pro	Asp	Arg	260	265	270
Phe	Phe	Ser	Ile	Gly	Thr	Leu	Tyr	Asp	Arg	Ile	Ser	Thr	Ser	Asn	Gln	275	280	285
Val	Tyr	Phe	Ser	Glu	Thr	Pro	Phe	Pro	Asn	Val	Lys	Asn	Leu	Lys	Glu	290	295	300
Asn	Arg	Val	Ile	Ile	Glu	Ala	Phe	His	Arg	Asn	Met	Glu	Ala	Ser	Arg	305	310	315
Gln	Ala	Ile	Pro	Ile	Leu	Tyr	Pro	Glu	Gln	Ile	Ile	Gln	Asn	Asp	Glu	325	330	335
Asn	Pro	Leu	Leu	Ala	Phe	Leu	Gln	His	Leu	Gln	Glu	Tyr	Met	Pro	Pro	340	345	350
His	Gly	Lys	Pro	Leu	Lys	Leu	Ala	Ile	Tyr	Ser	Thr	Lys	Thr	Lys	Ser	355	360	365
Leu	Lys	Glu	Ala	Arg	Ala	Leu	Ala	Glu	Thr	Val	Ala	Arg	Gly	Asp	Val	370	375	380
Glu	Ile	Tyr	Glu	Lys	Thr	Gly	Asn	Leu	Thr	Ser	Ser	Phe	Ala	Leu	Val	385	390	395
Asn	Glu	Ala	Phe	Ala	Ala	Ile	Ser	Leu	Ser	Glu	Phe	Ala	Ser	Thr	Lys	405	410	415
Val	Leu	Arg	Arg	Gln	Lys	Gln	Arg	Thr	His	Phe	Ser	Val	Thr	Thr	Glu	420	425	430
Glu	Val	Phe	Val	Pro	Ile	Pro	Gly	Glu	Thr	Val	Val	His	Ile	His	Asn	435	440	445
Gly	Ile	Gly	Lys	Phe	Leu	Gly	Ile	Glu	Lys	Lys	Pro	Asn	His	Leu	Asn	450	455	460
Ile	Glu	Thr	Asp	Tyr	Leu	Val	Leu	Glu	Tyr	Ala	Asp	Lys	Ala	Arg	Leu	465	470	475
Tyr	Val	Pro	Ser	Asn	Gln	Ala	Tyr	Leu	Ile	Ser	Arg	Tyr	Val	Gly	Thr	485	490	495
Ser	Asp	Lys	Ala	Ala	Asp	Leu	His	His	Leu	Asn	Ser	Ser	Lys	Trp	Lys	500	505	510
Arg	Ser	Arg	Asp	Leu	Thr	Glu	Lys	Ser	Leu	Ile	Val	Tyr	Ala	Glu	Lys	515	520	525
Leu	Leu	Gln	Leu	Glu	Ala	Gln	Arg	Ser	Thr	Thr	Pro	Ala	Phe	Val	Tyr	530	535	540
Pro	Pro	His	Gly	Glu	Ser	Val	Ile	Lys	Phe	Ala	Glu	Thr	Phe	Pro	Tyr	545	550	555
Glu	Glu	Thr	Pro	Asp	Gln	Leu	Lys	Thr	Ile	Asp	Gln	Ile	Tyr	Asn	Asp	565	570	575
Met	Met	Ser	Pro	Lys	Leu	Met	Asp	Arg	Leu	Ile	Cys	Gly	Asp	Ala	Gly	580	585	590
Phe	Gly	Lys	Thr	Glu	Val	Ile	Met	Arg	Ala	Ala	Val	Lys	Ala	Val	Cys	595	600	605
Asp	Gly	His	Arg	Gln	Val	Ile	Val	Met	Val	Pro	Thr	Thr	Ile	Leu	Ala	610	615	620
Thr	Gln	His	Tyr	Glu	Thr	Phe	Lys	Glu	Arg	Met	Ala	Gly	Leu	Pro	Ile	625	630	635
Glu	Ile	Ala	Val	Leu	Ser	Arg	Phe	Ser	Gln	Ala	Lys	Val	Gln	Lys	Leu	645	650	655
Ile	Cys	Glu	Gln	Val	Ala	Ser	Gly	Gln	Ile	Asp	Ile	Ile	Ile	Gly	Thr	660	665	670
His	Lys	Leu	Ile	Asn	Lys	Ser	Leu	Glu	Phe	Lys	Asn	Pro	Gly	Leu	Leu	675	680	685
Ile	Ile	Asp	Glu	Glu	Gln	Arg	Phe	Gly	Val	Lys	Val	Lys	Asp	Asn	Leu	690	695	700
Lys	Glu	Arg	Tyr	Pro	Met	Ile	Asp	Cys	Leu	Thr	Val	Ser	Ala	Thr	Pro	705	710	715
Ile	Pro	Arg	Thr	Leu	His	Met	Ser	Leu	Ser	Gly	Ala	Arg	Asp	Leu	Ser	725	730	735

Val Ile Ala Met Pro Pro Leu Asp Arg Leu Pro Val Ser Thr Phe Val  
 740 745 750  
 Met Glu His Asn Thr Glu Thr Leu Thr Ala Ala Leu Arg His Glu Leu  
 755 760 765  
 Leu Arg Gly Gly Gln Ala Tyr Val Ile His Asn Arg Ile Glu Ser Ile  
 770 775 780  
 Tyr Thr Leu Ala Glu Thr Ile Arg Asn Leu Ile Pro Glu Ala Arg Ile  
 785 790 795 800  
 Gly Val Ala His Gly Gln Met Gly Ala Glu Asp Leu Ser Asn Ile Phe  
 805 810 815  
 Thr Lys Phe Lys Asn Gln Lys Thr Asp Ile Leu Val Ala Thr Ala Leu  
 820 825 830  
 Ile Glu Asn Gly Ile Asp Ile Pro Asn Ala Asn Thr Ile Leu Ile Asp  
 835 840 845  
 His Ala Asp Lys Phe Gly Met Ala Asp Leu Tyr Gln Met Lys Gly Arg  
 850 855 860  
 Val Gly Arg Trp Asn Lys Lys Ala Tyr Cys Tyr Phe Leu Val Pro His  
 865 870 875 880  
 Leu Asp Arg Leu Ser Gly Pro Ala Ala Lys Arg Leu Ala Ala Leu Asn  
 885 890 895  
 Lys Gln Glu Tyr Gly Gly Gly Met Lys Ile Ala Leu His Asp Leu Glu  
 900 905 910  
 Ile Arg Gly Ala Gly Asn Ile Leu Gly Thr Asp Gln Ser Gly His Ile  
 915 920 925  
 Gly Thr Ile Gly Phe Asn Leu Tyr Cys Lys Leu Leu Lys Lys Ala Val  
 930 935 940  
 Ser Ala Leu Lys Lys His Thr Ser Pro Leu Leu Phe Asn Asp Asp Val  
 945 950 955 960  
 Lys Ile Glu Phe Pro Tyr Asn Ser Arg Ile Pro Asp Thr Tyr Ile Glu  
 965 970 975  
 Thr Gly Ser Met Arg Ile Glu Phe Tyr Gln Lys Ile Gly Asn Ala Glu  
 980 985 990  
 Ser Ser Glu Glu Leu Thr Ala Ile Gln Glu Glu Met Arg Asp Arg Phe  
 995 1000 1005  
 Gly Pro Leu Pro Gln Glu Ile Cys Trp Leu Phe Ala Leu Ala Glu Ile  
 1010 1015 1020  
 Arg Leu Phe Ala Leu Gln His Gly Ile Ser Ser Ile Lys Gly Thr Ala  
 1025 1030 1035 1040  
 Asn Ala Leu Tyr Val Gln Lys Cys Leu Ser Lys Ser Glu Gln Thr Lys  
 1045 1050 1055  
 Lys Thr Leu Pro Tyr Ala Leu Ser Pro Thr Pro Glu Leu Leu Val Lys  
 1060 1065 1070  
 Glu Val Ile Glu Ser Ile Glu Arg Gly Phe Leu Ile Asn Ala Ser  
 1075 1080 1085

<210> 894

<211> 876

<212> PRT

<213> Chlamydia pneumoniae

<400> 894

Glu Phe Phe Phe Met Leu Ser Asn Thr Ile Arg Ser Asn Phe Leu Lys  
 1 5 10 15  
 Phe Tyr Ala Asn Arg His His Thr Ile Leu Pro Ser Ser Pro Val Phe  
 20 25 30  
 Pro His Asn Asp Pro Ser Ile Leu Phe Thr Asn Ala Gly Met Asn Gln  
 35 40 45  
 Phe Lys Asp Ile Phe Leu Asn Lys Glu Lys Val Ser Tyr Ser Arg Ala  
 50 55 60  
 Thr Thr Ser Gln Lys Cys Ile Arg Ala Gly Gly Lys His Asn Asp Leu  
 65 70 75 80



Asp	Asn	Val	Gly	His	Thr	Ser	Arg	His	Leu	Thr	Phe	Phe	Glu	Met	Leu		
				85					90					95			
Gly	Asn	Phe	Ser	Phe	Gly	Asp	Tyr	Phe	Lys	Ala	Glu	Ala	Ile	Ala	Phe		
			100					105					110				
Ala	Trp	Glu	Val	Ser	Leu	Ser	Val	Phe	Asn	Phe	Asn	Pro	Glu	Gly	Ile		
		115					120					125					
Tyr	Ala	Thr	Val	His	Glu	Lys	Asp	Asp	Glu	Ala	Phe	Ala	Leu	Trp	Glu		
	130					135					140						
Ala	Tyr	Leu	Pro	Thr	Asp	Arg	Ile	Phe	Arg	Leu	Thr	Asp	Lys	Asp	Asn		
145					150					155					160		
Phe	Trp	Ser	Met	Ala	Asn	Thr	Gly	Pro	Cys	Gly	Tyr	Cys	Ser	Glu	Leu		
			165						170					175			
Leu	Phe	Asp	Arg	Gly	Pro	Ser	Phe	Gly	Asn	Ala	Ser	Ser	Pro	Leu	Asp		
		180						185					190				
Asp	Thr	Asp	Gly	Glu	Arg	Phe	Leu	Glu	Tyr	Trp	Asn	Leu	Val	Phe	Met		
	195						200					205					
Glu	Phe	Asn	Arg	Thr	Ser	Glu	Gly	Ser	Leu	Leu	Ala	Leu	Pro	Asn	Lys		
	210					215					220						
His	Val	Asp	Thr	Gly	Ala	Gly	Leu	Glu	Arg	Leu	Val	Ser	Leu	Ile	Ala		
225					230					235					240		
Gly	Thr	His	Thr	Val	Phe	Glu	Ala	Asp	Val	Leu	Arg	Glu	Leu	Ile	Ala		
				245					250					255			
Lys	Thr	Glu	Gln	Leu	Ser	Gly	Lys	Val	Tyr	His	Pro	Asp	Asp	Ser	Gly		
		260						265				270					
Ala	Ala	Phe	Arg	Val	Ile	Ala	Asp	His	Val	Arg	Ser	Leu	Ser	Phe	Ala		
		275					280					285					
Ile	Ala	Asp	Gly	Leu	Leu	Pro	Gly	Asn	Thr	Glu	Arg	Gly	Tyr	Val	Leu		
	290					295				300							
Arg	Lys	Ile	Leu	Arg	Arg	Ser	Val	Asn	Tyr	Gly	Arg	Arg	Leu	Gly	Phe		
305					310					315					320		
Arg	Asn	Pro	Phe	Leu	Ala	Glu	Ile	Val	Pro	Ser	Leu	Ala	Asp	Ala	Met		
			325						330					335			
Gly	Glu	Ala	Tyr	Pro	Glu	Leu	Lys	Asn	Ser	Leu	Ser	Gln	Ile	Gln	Lys		
		340						345					350				
Val	Leu	Thr	Leu	Glu	Glu	Glu	Ser	Phe	Phe	Lys	Thr	Leu	Asp	Arg	Gly		
		355					360					365					
Gly	Asn	Leu	Leu	Gln	Gln	Val	Leu	Lys	Ser	Ser	Ser	Ser	Ser	Ser	Cys		
	370					375					380						
Ile	Ser	Gly	Glu	Asp	Ala	Phe	Lys	Leu	Lys	Asp	Thr	Tyr	Gly	Met	Pro		
385					390					395					400		
Ile	Asp	Glu	Ile	Ser	Leu	Leu	Ala	Lys	Asp	Tyr	Asp	Tyr	Ser	Val	Asp		
			405						410					415			
Met	Asp	Thr	Phe	His	Lys	Leu	Glu	Gln	Glu	Ala	Lys	Glu	Arg	Ser	Arg		
			420					425					430				
Lys	Asn	Val	Val	Gln	Ser	Gln	Gly	Thr	Ser	Glu	Ser	Ile	Tyr	Asn	Glu		
		435					440					445					
Leu	His	Leu	Thr	Ser	Glu	Phe	Ile	Gly	Tyr	Asp	His	Leu	Ser	Cys	Asp		
	450					455					460						
Thr	Phe	Ile	Glu	Ala	Ile	Ile	Ser	Lys	Asp	His	Ile	Val	Ser	Ser	Leu		
465					470					475					480		
Gln	Glu	Lys	Gln	Glu	Gly	Ala	Ile	Val	Leu	Lys	Val	Ser	Pro	Phe	Tyr		
			485					490						495			
Ala	Glu	Lys	Gly	Gly	Gln	Val	Gly	Asp	Ser	Gly	Glu	Ile	Phe	Cys	Ser		
		500					505					510					
Glu	Gly	Thr	Phe	Ile	Val	Thr	His	Thr	Thr	Ser	Pro	Lys	Ala	Gly	Leu		
		515					520					525					
Ile	Val	His	His	Gly	Arg	Ile	Ser	Gln	Gly	Ser	Leu	Thr	Val	Glu	Ala		
	530					535					540						
Ala	Val	Thr	Ala	Gln	Val	Asn	Arg	Tyr	Arg	Arg	Lys	Arg	Ile	Ala	Asn		
545					550					555					560		

Asn	His	Thr	Ala	Cys	His	Leu	Leu	His	Lys	Ala	Leu	Glu	Ile	Thr	Leu
				565					570					575	
Gly	Asp	His	Ile	Arg	Gln	Ala	Gly	Ser	Tyr	Val	Asp	Asp	Thr	Lys	Ile
			580					585					590		
Arg	Leu	Asp	Phe	Thr	His	Pro	Gln	Ala	Ile	Ser	Pro	Glu	Asp	Leu	Leu
		595					600					605			
Cys	Ile	Glu	Thr	Leu	Val	Asn	Glu	Ser	Ile	Arg	Glu	Asn	Glu	Pro	Val
	610					615					620				
Asp	Ile	Arg	Glu	Ala	Leu	Tyr	Ser	Asp	Val	Met	Asn	Ser	Ser	Glu	Ile
	625				630					635				640	
Lys	Gln	Phe	Phe	Gly	Asp	Lys	Tyr	Ser	Asp	Val	Val	Arg	Val	Val	Ser
				645					650					655	
Ala	Gly	His	Ser	His	Glu	Leu	Cys	Gly	Gly	Thr	His	Ala	Glu	Ala	Thr
			660					665					670		
Gly	Asp	Ile	Gly	Phe	Phe	Arg	Ile	Thr	Lys	Glu	His	Ala	Val	Ala	Met
		675					680					685			
Gly	Ile	Arg	Arg	Ile	Glu	Ala	Val	Thr	Gly	Glu	Lys	Ala	Glu	Ala	Thr
	690					695					700				
Val	His	Gln	Gln	Ser	Glu	Val	Leu	Glu	Glu	Ile	Ala	Thr	Leu	Leu	Gln
	705				710					715					720
Val	Pro	Arg	Asp	Gln	Ile	Val	Ser	Arg	Leu	Thr	Ala	Thr	Leu	Asp	Glu
				725				730						735	
Arg	Lys	Gln	Gln	Asp	Lys	Arg	Leu	Asn	Glu	Leu	Glu	Asn	Ser	Leu	Ile
			740					745					750		
Gln	Thr	Lys	Leu	Asp	Lys	Leu	Ile	His	Asn	Cys	His	Gln	Arg	Gln	Gly
		755					760					765			
Ile	Thr	Cys	Leu	Val	His	His	Leu	Ala	Glu	His	Glu	Asn	His	Arg	Leu
	770					775					780				
Gln	Gln	Tyr	Ala	Gln	Cys	Leu	His	Gln	Arg	Ile	Pro	Glu	Lys	Leu	Ile
	785				790					795					800
Ser	Leu	Trp	Thr	Thr	Glu	Lys	Asn	Gly	Lys	Tyr	Ile	Val	Leu	Ser	Arg
				805				810						815	
Val	Ser	Asp	Asp	Leu	Ile	Thr	Gln	Gly	Val	His	Ala	Gln	Asp	Leu	Leu
			820					825					830		
Lys	Ala	Val	Leu	Thr	Pro	Cys	Gly	Gly	Arg	Trp	Gly	Gly	Lys	Asp	Gln
		835					840					845			
Ser	Ala	Gln	Gly	Ser	Ala	Pro	Ala	Leu	Pro	Ala	Thr	Glu	Val	Leu	Asn
		850				855					860				
Glu	Thr	Leu	Trp	Gln	Trp	Ile	Ser	Thr	Gln	Leu	Ile				
	865				870					875					

<210> 895

<211> 689

<212> PRT

<213> Chlamydia pneumoniae

<400> 895

Glu	Phe	Leu	Ala	Phe	Cys	Leu	Gly	Ile	Ser	Tyr	Ser	Cys	Cys	Phe	Tyr
1				5					10					15	
Ile	Glu	Gly	Leu	Gln	Gly	Leu	Leu	Met	Ile	Asn	Lys	Glu	Leu	Asp	Ile
			20					25					30		
Gly	Ile	Leu	Gly	Lys	Ile	Ala	Gly	Ala	Ile	Lys	Gln	Ile	Ser	Ile	Glu
		35					40					45			
Ser	Ile	Gln	Lys	Ala	Ser	Ser	Gly	His	Pro	Gly	Leu	Pro	Leu	Gly	Cys
		50				55					60				
Ala	Glu	Leu	Ala	Ala	Tyr	Leu	Tyr	Gly	Tyr	Val	Leu	Arg	Gln	Asn	Pro
	65				70					75				80	
Arg	Asp	Pro	His	Trp	Ile	Asn	Arg	Asp	Arg	Phe	Val	Leu	Ser	Ala	Gly
				85				90						95	
His	Gly	Ser	Ala	Leu	Leu	Tyr	Ser	Cys	Leu	His	Leu	Ala	Gly	Phe	Asp
			100					105					110		

Val	Ser	Leu	Glu	Asp	Leu	Gln	Glu	Phe	Arg	Gln	Leu	His	Ser	Arg	Thr		
		115					120					125					
Pro	Gly	His	Pro	Glu	Tyr	Gly	Glu	Thr	Val	Gly	Val	Glu	Ala	Thr	Thr		
		130				135					140						
Gly	Pro	Leu	Gly	Gln	Gly	Leu	Gly	Asn	Ala	Val	Gly	Met	Ala	Leu	Ser		
145					150					155					160		
Met	Lys	Met	Leu	Glu	Ser	Arg	Phe	Asn	Arg	Pro	Gly	His	Glu	Ile	Phe		
			165					170						175			
Asn	Gly	Lys	Ile	Tyr	Cys	Leu	Ala	Gly	Asp	Gly	Cys	Phe	Met	Glu	Gly		
			180					185					190				
Val	Ser	His	Glu	Val	Cys	Ser	Phe	Ala	Gly	Ser	Leu	Asn	Leu	Asn	Asn		
		195					200					205					
Leu	Val	Val	Ile	Tyr	Asp	Tyr	Asn	Asn	Val	Val	Leu	Asp	Gly	Tyr	Leu		
		210				215					220						
Asn	Glu	Ile	Ser	Val	Glu	Asp	Thr	Lys	Lys	Arg	Phe	Glu	Ala	Tyr	Gly		
225					230					235					240		
Trp	Asp	Val	Tyr	Glu	Ile	Asp	Gly	Tyr	Asp	Phe	Thr	His	Ile	His	Glu		
				245				250						255			
Thr	Phe	Ser	Ser	Ile	Lys	Arg	Gly	Gln	Glu	Arg	Pro	Val	Leu	Val	Ile		
			260					265					270				
Ala	His	Thr	Ile	Ile	Gly	His	Gly	Ser	Pro	Lys	Glu	Gly	Thr	Asn	Lys		
		275					280					285					
Ala	His	Gly	Ser	Pro	Leu	Gly	Val	Glu	Gly	Thr	His	Glu	Thr	Lys	Gln		
		290				295					300						
Phe	Trp	His	Leu	Pro	Glu	Glu	Lys	Phe	Phe	Val	Pro	Pro	Ala	Val	Lys		
305					310					315					320		
Asn	Phe	Phe	Ala	His	Lys	Ile	Gln	Glu	Asp	Arg	Lys	Ala	Gln	Glu	Gln		
			325					330						335			
Trp	Leu	Asp	Glu	Val	Arg	Val	Trp	Ser	Lys	Gln	Phe	Pro	Glu	Leu	His		
			340					345					350				
Glu	Glu	Phe	Val	Ala	Leu	Thr	Ser	His	Lys	Leu	Pro	Lys	Asn	Leu	Glu		
		355					360					365					
Ser	Leu	Val	Gln	Ser	Val	Glu	Met	Pro	Asp	Ser	Ile	Ala	Gly	Arg	Ala		
		370				375					380						
Ala	Ser	Asn	Lys	Leu	Ile	Gln	Val	Leu	Val	Gln	His	Ile	Pro	Tyr	Leu		
385					390					395					400		
Ile	Gly	Gly	Ser	Ala	Asp	Leu	Ser	Ser	Ser	Asp	Gly	Thr	Trp	Ile	Ala		
			405					410						415			
Asn	Glu	Lys	Val	Ile	His	Thr	Tyr	Asp	Phe	Ser	Gly	Arg	Asn	Ile	Lys		
			420					425					430				
Tyr	Gly	Val	Arg	Glu	Phe	Gly	Met	Ala	Thr	Ile	Met	Asn	Gly	Leu	Ala		
		435				440						445					
Tyr	Ser	Gln	Val	Phe	Arg	Pro	Phe	Gly	Gly	Thr	Phe	Leu	Val	Phe	Ser		
		450				455					460						
Asp	Tyr	Met	Arg	Asn	Ala	Ile	Arg	Leu	Ala	Ala	Leu	Ser	Lys	Leu	Pro		
465					470					475					480		
Val	Ile	Tyr	Gln	Phe	Thr	His	Asp	Ser	Ile	Phe	Val	Gly	Glu	Asp	Gly		
			485					490						495			
Pro	Thr	His	Gln	Pro	Val	Glu	Gln	Leu	Met	Ser	Leu	Arg	Ala	Ile	Pro		
			500					505					510				
Gly	Leu	Tyr	Val	Ile	Arg	Pro	Ala	Asp	Ala	Asn	Glu	Val	Arg	Gly	Ala		
		515					520					525					
Trp	Ile	Ala	Gly	Leu	Lys	His	Thr	Gly	Pro	Thr	Val	Ile	Val	Leu	Ser		
		530				535					540						
Arg	Gln	Ala	Leu	Pro	Thr	Leu	Pro	Ala	Ala	His	Arg	Pro	Phe	Lys	Asp		
545					550					555					560		
Gly	Ile	Gly	Arg	Gly	Ala	Tyr	Ile	Val	Leu	Lys	Glu	Ser	Gly	Glu	Lys		
			565					570						575			
Pro	Asp	Tyr	Thr	Leu	Phe	Ala	Thr	Gly	Ser	Glu	Val	Ser	Leu	Ala	Leu		
			580					585					590				

Ser Val Ala Lys Glu Leu Glu His Leu Asp Lys Gln Val Arg Val Val  
           595                                600                                605  
 Ser Phe Pro Cys Trp Glu Leu Phe Glu Ala Gln Asp Val Asp Tyr Lys  
           610                                615                                620  
 Gln Ser Ile Val Gly Gly Asp Leu Gly Ile Arg Val Ser Ile Glu Ala  
   625                                630                                635                                640  
 Gly Ser Ala Leu Gly Trp Tyr Lys Tyr Ile Gly Ser Glu Gly Leu Ala  
                                 645                                650                                655  
 Ile Ala Met Asp Arg Phe Gly Tyr Ser Gly Ala Ser Asp Asp Val Ser  
                                 660                                665                                670  
 Glu Glu Cys Gly Phe Thr Thr Glu Gln Ile Leu Gln Arg Ile Leu Ser  
                                 675                                680                                685  
 Gln

<210> 896  
 <211> 312  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 896  
 Pro Arg Asn Asp Lys Asn Ala Lys Asn Leu Arg Arg Lys His Tyr Lys  
   1                                5                                10                                15  
 Gly Glu Arg Val Ser Lys His Thr Ser Glu Ser Arg Ile Ala Gln Asp  
                                 20                                25                                30  
 Met Leu Glu Arg Tyr Ser Gly Ser Ser Val Lys Gln Phe Cys Pro Tyr  
                                 35                                40                                45  
 Leu Leu Leu Thr Asn Phe Ser Tyr Tyr Ile Gln Thr Phe Ala Lys Leu  
                                 50                                55                                60  
 His Gly Val Pro Val Phe Glu Gly Ser Met Phe Ser Ala Ala His Ala  
   65                                70                                75                                80  
 Pro His Leu Lys Thr Ser Ile Leu Asp Phe Lys Leu Gly Ser Pro Gly  
                                 85                                90                                95  
 Ala Ala Leu Thr Ile Asp Leu Cys Ser Phe Leu Pro Asp Leu Lys Ala  
                                 100                                105                                110  
 Ala Leu Met Leu Gly Met Cys Gly Gly Leu Arg Ser His Tyr Gln Val  
                                 115                                120                                125  
 Gly Asp Tyr Phe Val Pro Val Ala Ser Ile Arg Gly Glu Gly Thr Ser  
                                 130                                135                                140  
 Asp Ala Tyr Phe Pro Pro Glu Val Pro Ala Leu Ala Asn Phe Val Val  
   145                                150                                155                                160  
 Gln Lys Ala Thr Thr Glu Val Leu Glu Asp Lys Lys Ala Asn Tyr His  
                                 165                                170                                175  
 Ile Gly Ile Thr His Thr Thr Asn Ile Arg Phe Trp Glu Phe Asn Lys  
                                 180                                185                                190  
 Lys Phe Arg Lys Lys Leu Tyr Glu Thr Lys Ala Gln Ser Ala Glu Met  
                                 195                                200                                205  
 Glu Cys Ala Thr Leu Phe Ala Ala Gly Tyr Arg Arg Asn Leu Pro Ile  
                                 210                                215                                220  
 Gly Ala Leu Leu Leu Ile Ser Asp Leu Pro Leu Arg Lys Glu Gly Ile  
   225                                230                                235                                240  
 Lys Thr Lys Ser Ser Gly Asn Phe Ile Phe Asn Thr Tyr Thr Glu Asp  
                                 245                                250                                255  
 His Ile Leu Thr Gly Gln Glu Val Ile Glu Asn Leu Glu Lys Val Met  
                                 260                                265                                270  
 Leu Lys Arg Ala Ala Ser Asp His Lys Lys Asp Gln Gln Tyr Arg Gly  
                                 275                                280                                285  
 Leu Pro His Met Glu Val Gly Glu Ala Asp Asp Thr Met Ala Ser Gly  
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 Ser Glu Thr Ser Asp Ser Asp Tyr  
   305                                310

<210> 897  
 <211> 195  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 897  
 Glu Ile Asp Cys Phe Met Val Arg Val Ser Thr Ser Glu Phe Arg Val  
 1 5 10 15  
 Gly Leu Arg Ile Glu Ile Asp Gly Gln Pro Tyr Leu Ile Leu Gln Asn  
 20 25 30  
 Asp Phe Val Lys Pro Gly Lys Gly Gln Ala Phe Asn Arg Ile Lys Val  
 35 40 45  
 Lys Asn Phe Leu Thr Gly Arg Val Ile Glu Arg Thr Tyr Lys Ser Gly  
 50 55 60  
 Glu Ser Val Glu Thr Ala Asp Ile Val Glu Arg Ser Met Arg Leu Leu  
 65 70 75 80  
 Tyr Thr Asp Gln Glu Gly Ala Thr Phe Met Asp Asp Glu Thr Phe Glu  
 85 90 95  
 Gln Glu Val Val Phe Trp Glu Lys Leu Glu Asn Ile Arg Gln Trp Leu  
 100 105 110  
 Leu Glu Asp Thr Ile Tyr Thr Leu Val Leu Tyr Asn Gly Asp Val Val  
 115 120 125  
 Ala Val Glu Pro Pro Ile Phe Met Glu Leu Ser Ile Ala Glu Thr Ala  
 130 135 140  
 Pro Gly Val Arg Gly Asp Thr Ala Ser Gly Arg Val Leu Lys Pro Ala  
 145 150 155 160  
 Val Thr Asn Thr Gly Ala Lys Ile Met Val Pro Ile Phe Ile Asp Glu  
 165 170 175  
 Gly Glu Leu Val Lys Val Asp Thr Arg Thr Gly Ser Tyr Glu Ser Arg  
 180 185 190  
 Val Ser Lys  
 195

<210> 898  
 <211> 83  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 898  
 Glu Lys Tyr Phe Phe Phe Thr Val Arg Asn Met Glu Ala Lys Lys Ile  
 1 5 10 15  
 Lys Glu Leu Ser Lys Glu Ala Gln Leu Leu Lys Lys Leu Arg Glu Lys  
 20 25 30  
 Ser Arg Val Leu Asp Glu Lys Asn Lys Arg Lys Ala Trp Val Ala Lys  
 35 40 45  
 Leu Val Ala Met Pro Glu Ser Ile Arg Glu Ile Glu Lys Glu Glu Arg  
 50 55 60  
 Val Glu Thr Pro Gln Leu Phe Gln Ala Ile Ala Glu Lys Ile Leu Glu  
 65 70 75 80  
 Glu Gly Val

<210> 899  
 <211> 314  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 899  
 Asn Phe Ser Leu Asp Ser Asn Thr Val Asp Gln Lys Asn Lys Ser Asn  
 1 5 10 15

Pro	Arg	Pro	Met	Gln	Glu	Lys	Pro	Arg	His	Val	His	Arg	Ile	Ile	His
		20					25						30		
Ile	Ser	Asp	Val	His	Phe	His	Val	Leu	Pro	Val	Asn	Pro	Val	His	Cys
	35						40				45				
Phe	Asn	Lys	Arg	Leu	Lys	Gly	Leu	Leu	Arg	Lys	Val	Phe	Gly	Leu	Val
	50					55					60				
His	Phe	Gln	Ala	Thr	Thr	Ile	Gly	Gln	Arg	Phe	Pro	Lys	Val	Val	Arg
65				70						75					80
Ser	Leu	Gly	Ala	Asp	Ser	Val	Cys	Ile	Thr	Gly	Asp	Phe	Ser	Leu	Thr
			85						90					95	
Ala	Met	Asp	Gly	Glu	Phe	Leu	Leu	Ala	Lys	His	Phe	Val	Glu	Thr	Leu
			100					105					110		
Ala	Lys	His	Ser	Ser	Val	Tyr	Leu	Leu	Pro	Gly	Asn	His	Asp	Val	Tyr
		115					120					125			
Thr	Leu	Lys	Ser	Leu	Ala	Gln	Gln	Thr	Phe	Tyr	Thr	His	Phe	Pro	Asn
	130					135					140				
Asp	Gln	Leu	Gln	Gln	Asn	Lys	Val	Ser	Phe	His	Lys	Ile	Thr	Asp	His
145					150					155					160
Trp	Trp	Leu	Ile	Leu	Leu	Asp	Cys	Ser	Cys	Leu	Asn	Gly	Trp	Phe	Ser
			165						170					175	
Ala	Asn	Gly	Val	Val	His	Leu	Ala	Gln	Ile	Ser	Ala	Ile	Glu	Thr	Phe
			180					185					190		
Leu	Leu	Ser	Leu	Ser	Pro	Glu	Glu	Asn	Val	Ile	Ile	Ala	Asn	His	Tyr
		195					200					205			
Pro	Leu	Leu	Ser	Ser	Gln	Asn	Pro	Ser	His	Asp	Leu	Ile	Asn	Asn	Thr
	210					215					220				
His	Leu	Gln	Asn	Val	Leu	Lys	Lys	Tyr	Pro	Lys	Val	Arg	Leu	Tyr	Leu
225					230					235					240
His	Gly	His	Glu	His	Gln	Ala	Ala	Val	Tyr	Asn	Cys	Ala	Asp	Thr	Ser
			245						250					255	
Pro	Ser	Tyr	Ile	Leu	Asn	Ser	Gly	Ser	Ile	Ser	Leu	Pro	Thr	Asn	Ser
		260						265					270		
Arg	Phe	His	Val	Ile	Asp	Leu	Tyr	Pro	Glu	Lys	Tyr	Gln	Val	His	Thr
		275					280					285			
Met	Ile	Leu	Lys	Asn	Leu	Leu	Asp	Phe	Asp	Ala	Pro	Leu	Glu	Ile	Ala
	290					295					300				
Asn	Glu	Ala	Thr	Trp	Asp	Cys	Gln	Lys	Leu						
305					310										

<210> 900  
 <211> 536  
 <212> PRT  
 <213> Chlamydia pneumoniae

Thr	Lys	Lys	Arg	Leu	Gly	Ser	Val	Lys	Ile	Leu	Arg	Leu	Leu	Gly	Val
1				5					10					15	
Cys	Met	Ser	Glu	Gln	Glu	Lys	Leu	Ser	Asn	Tyr	Asn	Ala	Asp	Lys	Lys
			20					25					30		
Leu	Phe	Ser	Gly	Ile	Asp	Lys	Leu	Phe	Gln	Ile	Val	Lys	Gly	Ser	Tyr
	35						40					45			
Gly	Pro	Lys	Gln	Ser	Leu	Ser	Pro	Thr	Ser	Phe	Phe	Lys	Glu	Arg	Gly
	50					55					60				
Phe	Tyr	Ala	Ile	Ser	Gln	Thr	Glu	Leu	Ser	Asn	Ser	Tyr	Glu	Asn	Leu
65					70					75					80
Gly	Val	Asp	Phe	Ala	Lys	Ala	Met	Val	Asn	Lys	Ile	His	Lys	Glu	His
			85						90					95	
Ser	Asp	Gly	Ala	Thr	Thr	Gly	Leu	Ile	Leu	Leu	His	Ala	Ile	Leu	Gln
			100					105				110			
Glu	Ser	Tyr	Ala	Ala	Leu	Glu	Lys	Gly	Ile	Ser	Thr	His	Lys	Leu	Ile
		115					120					125			

Ala	Ser	Leu	Lys	Leu	Gln	Gly	Glu	Lys	Leu	Gln	Glu	Ala	Leu	Gln	Gln
130						135					140				
Gln	Ser	Trp	Pro	Ile	Lys	Asp	Ala	Leu	Lys	Val	Arg	Asn	Ile	Ile	Phe
145					150					155					160
Ser	Ser	Leu	His	Met	Pro	Thr	Ile	Ala	Asp	His	Phe	Tyr	Asn	Ala	Phe
				165					170					175	
Ser	Val	Val	Gly	Pro	Glu	Gly	Leu	Ile	Ser	Ile	Thr	Lys	Glu	Arg	Glu
			180					185					190		
Asn	Asp	Lys	Thr	Ser	Met	Asp	Val	Phe	Gln	Gly	Phe	Lys	Ile	Pro	Ala
		195					200					205			
Gly	Tyr	Ala	Ser	Thr	Tyr	Phe	Val	Ser	Asp	Thr	Ala	Ser	Arg	Leu	Thr
	210					215					220				
Arg	Ile	Ala	His	Pro	Leu	Ile	Leu	Ile	Thr	Asp	Arg	Lys	Ile	Ser	Met
225					230					235					240
Ile	His	Ser	Leu	Leu	Pro	Leu	Leu	Gln	Glu	Ile	Ser	Glu	Gln	Asn	Gln
				245					250					255	
His	Leu	Ile	Ile	Phe	Cys	Glu	Asp	Ile	Asp	Pro	Asp	Val	Leu	Ala	Thr
			260					265					270		
Leu	Val	Val	Asn	Lys	Leu	Gln	Gly	Leu	Leu	Gln	Val	Thr	Val	Val	Thr
		275					280					285			
Ile	Pro	Gln	Leu	Ser	Thr	Thr	Asn	Gln	Glu	Leu	Ala	Glu	Asp	Ile	Ala
	290					295					300				
Leu	Phe	Thr	Gly	Thr	His	Ile	Cys	Pro	Cys	Gln	Glu	Ala	Ser	His	Val
305					310					315					320
Leu	Ala	Pro	Glu	Met	Val	Thr	Leu	Gly	Ser	Cys	Leu	Ser	Ile	Glu	Ile
				325					330					335	
Ser	Glu	Ser	Gln	Thr	Thr	Leu	Ile	Gly	Gly	Leu	His	Ile	Pro	Glu	Val
			340					345					350		
Leu	Thr	Leu	Lys	Thr	Arg	Gln	Leu	Ala	Glu	Glu	Ile	Arg	Thr	Thr	Ser
		355				360						365			
Cys	Leu	Glu	Thr	Lys	Lys	Arg	Leu	Ile	Lys	Ser	Thr	Asn	Arg	Leu	Gln
	370					375					380				
Ser	Ser	Val	Ala	Ile	Leu	Pro	Thr	Asp	Glu	Asp	Asn	Glu	Pro	Leu	Tyr
385					390					395					400
Thr	Leu	Ala	Leu	Lys	Ile	Met	Glu	Ser	Ala	Leu	Ser	Arg	Gly	Tyr	Val
				405					410					415	
Pro	Gly	Gly	Gly	Val	Ala	Leu	Phe	Tyr	Ala	Ser	Leu	Thr	Leu	Gly	Thr
			420					425					430		
Pro	Lys	Asp	Asp	Ala	Asp	Glu	Asn	Ser	Ile	Ala	Ile	Ser	Leu	Leu	Gln
		435					440					445			
Lys	Ala	Cys	Cys	Ala	Pro	Leu	Lys	Leu	Leu	Ala	Thr	Asn	Ala	Asp	Leu
	450					455					460				
Asp	Gly	Asp	Ala	Val	Ile	Ala	Lys	Leu	Ser	Ser	Leu	Gly	Thr	Thr	Ser
465					470					475					480
Leu	Gly	Ile	Ser	Val	Phe	Ser	Arg	Glu	Ile	Glu	Asp	Leu	Ile	Ala	Gly
				485					490					495	
Gly	Ile	Leu	Asp	Ser	Leu	Ala	Thr	Thr	Ser	Thr	Ile	Leu	Ala	Gln	Ala
			500					505					510		
Leu	Asp	Thr	Ala	Ile	Leu	Val	Leu	Ser	Ser	Lys	Ile	Leu	Ile	Leu	Glu
		515					520					525			
Asn	Gln	Tyr	Glu	Ile	Ser	Thr	Leu								
	530					535									

<210> 901

<211> 456

<212> PRT

<213> Chlamydia pneumoniae

<400> 901

Asn	His	Arg	Cys	Cys	Arg	Gln	Asn	Tyr	Met	Arg	Ala	Met	Leu	Leu	Glu
1				5					10					15	





<400> 902

Leu	Val	Phe	Asn	Phe	Leu	Gly	Ala	Ser	Met	Ile	Pro	Leu	Ile	Pro	Met
1			5						10					15	
Phe	Leu	Lys	Gln	Ser	Leu	Phe	Phe	Ser	Leu	Ala	Leu	Thr	Gly	Met	Thr
			20					25					30		
Thr	Leu	Val	Leu	Thr	Val	Ala	Leu	Gly	Val	Pro	Val	Met	Lys	Trp	Leu
		35				40						45			
Lys	Arg	Lys	Asn	Tyr	Arg	Asp	Tyr	Ile	His	Lys	Glu	Tyr	Cys	Glu	Lys
	50					55					60				
Leu	Glu	Met	Leu	His	Lys	Asp	Lys	Ala	Glu	Val	Pro	Thr	Gly	Gly	Gly
65					70					75					80
Val	Leu	Leu	Phe	Ile	Ser	Leu	Ile	Ala	Ser	Leu	Leu	Val	Trp	Leu	Pro
				85					90					95	
Trp	Gly	Lys	Phe	Ser	Thr	Trp	Phe	Phe	Ile	Ile	Leu	Leu	Thr	Cys	Tyr
			100					105					110		
Ala	Gly	Leu	Gly	Trp	Tyr	Asp	Asp	Arg	Ile	Lys	Ile	Lys	Arg	Lys	Gln
		115				120						125			
Gly	His	Gly	Leu	Lys	Ala	Lys	His	Lys	Phe	Met	Val	Gln	Ile	Ala	Ile
	130					135					140				
Ala	Ala	Phe	Thr	Leu	Ile	Ala	Leu	Pro	Tyr	Ile	Tyr	Gly	Ser	Thr	Glu
145					150					155					160
Pro	Leu	Trp	Thr	Leu	Lys	Ile	Pro	Phe	Met	Glu	Gly	Met	Leu	Ser	Leu
				165					170					175	
Pro	Phe	Trp	Leu	Gly	Lys	Val	Phe	Cys	Leu	Gly	Leu	Ala	Leu	Val	Ala
			180					185					190		
Ile	Ile	Gly	Thr	Ser	Asn	Ala	Val	Asn	Leu	Thr	Asp	Gly	Leu	Asp	Gly
		195				200						205			
Leu	Ala	Ala	Gly	Thr	Met	Ser	Phe	Ala	Ala	Leu	Gly	Phe	Ile	Phe	Val
	210				215						220				
Ala	Leu	Arg	Ser	Ser	Thr	Ile	Pro	Ile	Ala	Gln	Asp	Val	Ala	Tyr	Val
225					230					235					240
Leu	Ala	Ala	Leu	Val	Gly	Ala	Cys	Ile	Gly	Phe	Leu	Trp	Tyr	Asn	Gly
				245					250					255	
Phe	Pro	Ala	Gln	Leu	Phe	Met	Gly	Asp	Thr	Gly	Ser	Leu	Leu	Leu	Gly
			260					265					270		
Gly	Leu	Leu	Gly	Ser	Cys	Ala	Val	Met	Leu	Arg	Ala	Glu	Cys	Ile	Leu
		275				280						285			
Val	Val	Ile	Gly	Gly	Val	Phe	Val	Ala	Glu	Ala	Gly	Ser	Val	Ile	Leu
	290					295					300				
Gln	Val	Leu	Ser	Cys	Arg	Leu	Arg	Lys	Lys	Arg	Leu	Phe	Leu	Cys	Ser
305					310					315					320
Pro	Leu	His	His	His	Tyr	Glu	Tyr	Gln	Gly	Leu	Pro	Glu	Thr	Lys	Ile
				325					330					335	
Val	Met	Arg	Phe	Trp	Ile	Phe	Ser	Phe	Val	Cys	Ala	Gly	Leu	Gly	Ile
			340					345					350		
Ala	Ala	Val	Leu	Trp	Arg										
			355												

<210> 903

<211> 433

<212> PRT

<213> Chlamydia pneumoniae

<400> 903

Phe	Cys	Met	Arg	Arg	Ser	Arg	Tyr	Ser	Gly	Cys	Leu	Met	Glu	Ile	Asp
1				5					10					15	
Met	Cys	Gln	Arg	Ile	Leu	Ile	Leu	Gly	Thr	Gly	Ile	Thr	Gly	Lys	Ser
		20						25					30		
Val	Ala	Arg	Phe	Leu	Tyr	Gln	Gln	Gly	His	Tyr	Leu	Ile	Gly	Ala	Asp
		35					40					45			

Asn Ser Leu Glu Ser Leu Ile Ser Val Asp His Leu His Asp Arg Leu  
 50 55 60  
 Leu Met Gly Ala Ser Glu Phe Pro Glu Asn Ile Asp Leu Val Ile Arg  
 65 70 75 80  
 Ser Pro Gly Ile Lys Pro Tyr His Pro Trp Val Glu Gln Ala Val Ser  
 85 90 95  
 Leu Lys Ile Pro Val Val Thr Asp Ile Gln Val Ala Leu Lys Thr Pro  
 100 105 110  
 Glu Phe Gln Arg Tyr Pro Ser Phe Gly Ile Thr Gly Ser Asn Gly Lys  
 115 120 125  
 Thr Thr Thr Thr Leu Phe Leu Thr His Leu Leu Asn Thr Leu Gly Ile  
 130 135 140  
 Pro Ala Ile Ala Met Gly Asn Ile Gly Leu Pro Ile Leu Asp His Met  
 145 150 155 160  
 Gly Gln Pro Gly Val Arg Val Val Glu Ile Ser Ser Phe Gln Leu Ala  
 165 170 175  
 Thr Gln Glu Glu His Ile Pro Ala Leu Ser Gly Ser Val Phe Leu Asn  
 180 185 190  
 Phe Ser Arg Asn His Leu Asp Tyr His Arg Asn Leu Asp Ala Tyr Phe  
 195 200 205  
 Asp Ala Lys Leu Arg Ile Gln Lys Cys Leu Arg Gln Asp Lys Thr Phe  
 210 215 220  
 Trp Val Trp Glu Glu Cys Ser Leu Gly Asn Ser Tyr Gln Ile Tyr Ser  
 225 230 235 240  
 Glu Glu Ile Glu Glu Ile Leu Asp Lys Gly Asp Ala Leu Lys Pro Ile  
 245 250 255  
 Tyr Leu His Asp Arg Asp Asn Tyr Cys Ala Ala Tyr Ala Leu Ala Asn  
 260 265 270  
 Glu Val Gly Trp Val Ser Pro Glu Gly Phe Leu Lys Ala Ile Arg Thr  
 275 280 285  
 Phe Glu Lys Pro Ala His Arg Leu Glu Tyr Leu Gly Lys Lys Asp Gly  
 290 295 300  
 Val His Tyr Ile Asn Asp Ser Lys Ala Thr Thr Val Thr Ala Val Glu  
 305 310 315 320  
 Lys Ala Leu Met Ala Val Gly Lys Asp Val Ile Val Ile Leu Gly Gly  
 325 330 335  
 Lys Asp Lys Gly Gly Asp Phe Pro Ala Leu Ala Ser Val Leu Ser Gln  
 340 345 350  
 Thr Thr Lys His Val Ile Ala Met Gly Glu Cys Arg Gln Thr Ile Ala  
 355 360 365  
 Asp Ala Leu Ser Glu Lys Ile Pro Leu Thr Leu Ser Lys Asp Leu Gln  
 370 375 380  
 Glu Ala Val Ser Ile Ala Gln Thr Ile Ala Gln Glu Gly Asp Thr Val  
 385 390 395 400  
 Leu Leu Ser Pro Gly Cys Ala Ser Phe Asp Gln Phe Gln Ser Phe Lys  
 405 410 415  
 Glu Arg Gly Ala Tyr Phe Lys Leu Leu Ile Arg Glu Met Gln Ala Val  
 420 425 430  
 Arg

<210> 904  
 <211> 245  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 904  
 Ala Val Asp Gln Arg Asn Ala Gly Ser Glu Val Asn Met Asn Arg Arg  
 1 5 10 15  
 Asp Met Val Ile Thr Ala Val Val Val Asn Ala Ile Leu Leu Val Ala  
 20 25 30

Leu	Phe	Val	Thr	Ser	Lys	Arg	Ile	Gly	Val	Lys	Asp	Tyr	Asp	Glu	Gly
		35					40					45			
Phe	Arg	Asn	Phe	Ala	Ser	Ser	Lys	Val	Thr	Gln	Ala	Val	Val	Ser	Glu
	50					55					60				
Glu	Lys	Val	Ile	Glu	Lys	Pro	Val	Val	Ala	Glu	Val	Pro	Ser	Arg	Pro
65					70					75					80
Ile	Ala	Lys	Glu	Thr	Leu	Ala	Ala	Gln	Phe	Ile	Glu	Ser	Lys	Pro	Val
			85						90					95	
Ile	Val	Thr	Thr	Pro	Pro	Val	Pro	Val	Val	Ser	Glu	Thr	Pro	Glu	Val
			100					105					110		
Pro	Thr	Val	Ala	Val	Pro	Pro	Gln	Pro	Val	Arg	Glu	Thr	Val	Lys	Glu
		115					120						125		
Glu	Gln	Ala	Pro	Tyr	Ala	Thr	Val	Val	Val	Lys	Lys	Gly	Asp	Phe	Leu
	130					135					140				
Glu	Arg	Ile	Ala	Arg	Ala	Asn	His	Thr	Thr	Val	Ala	Lys	Leu	Met	Gln
145				150						155					160
Ile	Asn	Asp	Leu	Thr	Thr	Thr	Gln	Leu	Lys	Ile	Gly	Gln	Val	Ile	Lys
			165					170						175	
Val	Pro	Thr	Ser	Gln	Asp	Val	Ser	Asn	Glu	Lys	Thr	Pro	Gln	Thr	Gln
			180					185					190		
Thr	Ala	Asn	Pro	Glu	Asn	Tyr	Tyr	Ile	Val	Gln	Glu	Gly	Asp	Ser	Pro
		195					200					205			
Trp	Thr	Ile	Ala	Leu	Arg	Asn	His	Ile	Arg	Leu	Asp	Asp	Leu	Leu	Lys
	210				215						220				
Met	Asn	Asp	Leu	Asp	Glu	Tyr	Lys	Ala	Arg	Arg	Leu	Lys	Pro	Gly	Asp
225				230						235					240
Gln	Leu	Arg	Ile	Arg											
				245											

<210> 905

<211> 391

<212> PRT

<213> Chlamydia pneumoniae

<400> 905

Ser	Lys	Gln	Ser	Leu	Ser	Met	Lys	Trp	Phe	Val	Ile	Ser	Cys	Leu	Leu
1				5					10					15	
Gly	Ile	Phe	Ser	Leu	Gly	Leu	Ile	Met	Val	Phe	Asp	Thr	Ser	Ser	Ala
			20					25					30		
Glu	Val	Leu	Asp	Arg	Ser	Leu	Glu	Cys	Ser	Thr	His	Lys	Ala	Leu	Ile
		35					40					45			
Arg	Gln	Val	Thr	Tyr	Leu	Ile	Leu	Gly	Leu	Gly	Val	Ala	Ser	Leu	Leu
	50				55						60				
Tyr	Met	Met	Glu	Trp	Arg	Asp	Phe	Leu	Lys	Ile	Ser	Pro	Val	Leu	Leu
65				70						75				80	
Ser	Gly	Ala	Ala	Leu	Ala	Leu	Ile	Cys	Val	Phe	Ile	Pro	Gly	Leu	Gly
			85					90						95	
Ile	Cys	Arg	Asn	Gly	Ala	Arg	Arg	Trp	Leu	Gly	Phe	Gly	Gln	Leu	Thr
			100					105					110		
Ile	Gln	Pro	Ser	Glu	Phe	Val	Lys	Tyr	Leu	Val	Pro	Ile	Val	Ala	Leu
		115					120					125			
Tyr	Phe	Leu	Thr	Phe	Ser	Ser	Leu	Tyr	Gln	Lys	Gln	Leu	Lys	Met	Phe
	130				135						140				
Leu	Lys	Leu	Thr	Ala	Ile	Leu	Phe	Ile	Pro	Ile	Leu	Leu	Ile	Ala	Ile
145				150						155					160
Glu	Pro	Asp	Asn	Gly	Ser	Ala	Ala	Val	Ile	Ser	Ala	Ser	Leu	Ile	Pro
			165					170						175	
Val	Phe	Ile	Met	Thr	Ser	Val	Arg	Leu	Arg	Tyr	Trp	Leu	Leu	Pro	Leu
			180					185					190		
Leu	Cys	Val	Leu	Ile	Ala	Gly	Gly	Ala	Leu	Ala	Tyr	Arg	Met	Pro	Tyr
		195					200					205			

Val	Arg	Tyr	Arg	Leu	Asn	Val	Tyr	Leu	His	Pro	Glu	Leu	Asp	Ile	Lys
210						215					220				
Gly	Arg	Gly	His	Gln	Pro	Tyr	Gln	Ala	Lys	Ile	Ala	Ala	Gly	Ser	Gly
225					230					235					240
Lys	Leu	Leu	Gly	Lys	Gly	Pro	Gly	Ala	Ser	Leu	Gln	Lys	Leu	Thr	Tyr
				245					250					255	
Leu	Pro	Glu	Ala	Gln	Asn	Asp	Tyr	Ile	Ala	Ala	Ile	Tyr	Ala	Glu	Glu
			260					265					270		
Phe	Gly	Phe	Leu	Gly	Met	Leu	Val	Leu	Ile	Leu	Leu	Tyr	Met	Cys	Phe
		275					280					285			
Val	Tyr	Gly	Gly	Tyr	Ala	Ile	Ala	Ile	Lys	Ala	Ser	Ser	Leu	Glu	Gly
290						295					300				
Ala	Ala	Leu	Ala	Met	Val	Ile	Thr	Leu	Ile	Ile	Ser	Met	Gln	Ala	Phe
305					310					315					320
Met	Asn	Leu	Gly	Val	Val	Ser	Gly	Leu	Leu	Pro	Ser	Lys	Gly	Val	Asn
				325					330					335	
Leu	Pro	Phe	Phe	Ser	Gln	Gly	Gly	Ser	Ser	Leu	Ile	Ala	Asn	Met	Cys
			340					345					350		
Gly	Val	Thr	Leu	Leu	Leu	Lys	Val	Tyr	Asp	Glu	Glu	Asn	Ser	Lys	Ser
		355					360					365			
Ser	Leu	Gly	Cys	Arg	Arg	Phe	Arg	Arg	Pro	His	Cys	Pro	Ser	Ser	Leu
	370					375					380				
Gly	Lys	Gly	Ser	Phe	Phe	Ser									
385					390										

<210> 906

<211> 359

<212> PRT

<213> Chlamydia pneumoniae

<400> 906

Arg	Tyr	Met	Met	Lys	Lys	Ile	Arg	Lys	Val	Ala	Leu	Ala	Val	Gly	Gly
1				5					10					15	
Ser	Gly	Gly	His	Ile	Val	Pro	Ala	Leu	Ser	Val	Lys	Glu	Ala	Phe	Ser
			20					25					30		
Arg	Glu	Gly	Ile	Asp	Val	Leu	Leu	Gly	Lys	Gly	Leu	Lys	Asn	His	
	35					40					45				
Pro	Ser	Leu	Gln	Gln	Gly	Ile	Ser	Tyr	Arg	Glu	Ile	Pro	Ser	Gly	Leu
	50					55					60				
Pro	Thr	Val	Leu	Asn	Pro	Ile	Lys	Ile	Met	Ser	Arg	Thr	Leu	Ser	Leu
65				70					75					80	
Cys	Ser	Gly	Tyr	Leu	Lys	Ala	Arg	Lys	Glu	Leu	Lys	Ile	Phe	Asp	Pro
			85						90				95		
Asp	Leu	Val	Ile	Gly	Phe	Gly	Ser	Tyr	His	Ser	Leu	Pro	Val	Leu	Leu
			100					105					110		
Ala	Gly	Leu	Ser	His	Lys	Ile	Pro	Leu	Phe	Leu	His	Glu	Gln	Asn	Leu
		115						120				125			
Val	Pro	Gly	Lys	Val	Asn	Gln	Leu	Phe	Ser	Arg	Tyr	Ala	Arg	Gly	Ile
	130					135					140				
Gly	Val	Asn	Phe	Ser	Pro	Val	Thr	Lys	His	Phe	Arg	Cys	Pro	Ala	Glu
145					150					155				160	
Glu	Val	Phe	Leu	Pro	Lys	Arg	Ser	Phe	Ser	Leu	Gly	Ser	Pro	Met	Met
				165					170					175	
Lys	Arg	Cys	Thr	Asn	His	Thr	Pro	Thr	Ile	Cys	Val	Val	Gly	Gly	Ser
			180					185					190		
Gln	Gly	Ala	Gln	Ile	Leu	Asn	Thr	Cys	Val	Pro	Gln	Ala	Leu	Val	Lys
		195					200					205			
Leu	Val	Asn	Lys	Tyr	Pro	Asn	Met	Tyr	Val	His	His	Ile	Val	Gly	Pro
	210					215					220				
Lys	Ser	Asp	Val	Met	Lys	Val	Gln	His	Val	Tyr	Asn	Arg	Gly	Glu	Val
225					230					235					240

Leu Cys Cys Val Lys Pro Phe Glu Glu Gln Leu Leu Asp Val Leu Leu  
 245 250 255  
 Ala Ala Asp Leu Val Ile Ser Arg Ala Gly Ala Thr Ile Leu Glu Glu  
 260 265 270  
 Ile Leu Trp Ala Lys Val Pro Gly Ile Leu Ile Pro Tyr Pro Gly Ala  
 275 280 285  
 Tyr Gly His Gln Glu Val Asn Ala Lys Phe Phe Val Asp Val Leu Glu  
 290 295 300  
 Gly Gly Thr Met Ile Leu Glu Lys Glu Leu Thr Glu Lys Leu Leu Val  
 305 310 315 320  
 Glu Lys Val Thr Phe Ala Leu Asp Ser His Asn Arg Glu Lys Gln Arg  
 325 330 335  
 Asn Ser Leu Ala Ala Tyr Ser Gln Gln Arg Ser Thr Lys Thr Phe His  
 340 345 350  
 Ala Phe Ile Cys Glu Cys Leu  
 355

<210> 907

<211> 812

<212> PRT

<213> Chlamydia pneumoniae

<400> 907

Val His Tyr Met Lys Gly Thr Pro Gln Tyr His Phe Ile Gly Ile Gly  
 1 5 10 15  
 Gly Ile Gly Met Ser Ala Leu Ala His Ile Leu Leu Asp Arg Gly Tyr  
 20 25 30  
 Glu Val Ser Gly Ser Asp Leu Tyr Glu Ser Tyr Thr Ile Glu Ser Leu  
 35 40 45  
 Lys Ala Lys Gly Ala Arg Cys Phe Ser Gly His Asp Ser Ser His Val  
 50 55 60  
 Pro His Asp Ala Val Val Val Tyr Ser Ser Ser Ile Ala Pro Asp Asn  
 65 70 75 80  
 Val Glu Tyr Leu Thr Ala Ile Gln Arg Ser Ser Arg Leu Leu His Arg  
 85 90 95  
 Ala Glu Leu Leu Ser Gln Leu Met Glu Gly Tyr Glu Ser Ile Leu Val  
 100 105 110  
 Ser Gly Ser His Gly Lys Thr Gly Thr Ser Ser Leu Ile Arg Ala Ile  
 115 120 125  
 Phe Gln Glu Ala Gln Lys Asp Pro Ser Tyr Ala Ile Gly Gly Leu Ala  
 130 135 140  
 Ala Asn Cys Leu Asn Gly Tyr Ser Gly Ser Ser Lys Ile Phe Val Ala  
 145 150 155 160  
 Glu Ala Asp Glu Ser Asp Gly Ser Leu Lys His Tyr Thr Pro Arg Ala  
 165 170 175  
 Val Val Ile Thr Asn Ile Asp Asn Glu His Leu Asn Asn Tyr Ala Gly  
 180 185 190  
 Asn Leu Asp Asn Leu Val Gln Val Ile Gln Asp Phe Ser Arg Lys Val  
 195 200 205  
 Thr Asp Leu Asn Lys Val Phe Tyr Asn Gly Asp Cys Pro Ile Leu Lys  
 210 215 220  
 Gly Asn Val Gln Gly Ile Ser Tyr Gly Tyr Ser Pro Glu Cys Gln Leu  
 225 230 235 240  
 His Ile Val Ser Tyr Asn Gln Lys Ala Trp Gln Ser His Phe Ser Phe  
 245 250 255  
 Thr Phe Leu Gly Gln Glu Tyr Gln Asp Ile Glu Leu Asn Leu Pro Gly  
 260 265 270  
 Gln His Asn Ala Ala Asn Ala Ala Ala Cys Gly Val Ala Leu Thr  
 275 280 285  
 Phe Gly Ile Asp Ile Asn Ile Ile Arg Lys Ala Leu Lys Lys Phe Ser  
 290 295 300

Gly	Val	His	Arg	Arg	Leu	Glu	Arg	Lys	Asn	Ile	Ser	Glu	Ser	Phe	Leu	305	310	315	320
Phe	Leu	Glu	Asp	Tyr	Ala	His	His	Pro	Val	Glu	Val	Ala	His	Thr	Leu	325	330	335	
Arg	Ser	Val	Arg	Asp	Ala	Val	Gly	Leu	Arg	Arg	Val	Ile	Ala	Ile	Phe	340	345	350	
Gln	Pro	His	Arg	Phe	Ser	Arg	Leu	Glu	Glu	Cys	Leu	Gln	Thr	Phe	Pro	355	360	365	
Lys	Ala	Phe	Gln	Glu	Ala	Asp	Glu	Val	Ile	Leu	Thr	Asp	Val	Tyr	Ser	370	375	380	
Ala	Gly	Glu	Ser	Pro	Arg	Glu	Ser	Ile	Ile	Leu	Ser	Asp	Leu	Ala	Glu	385	390	395	400
Gln	Ile	Arg	Lys	Ser	Ser	Tyr	Val	His	Cys	Cys	Tyr	Val	Pro	His	Gly	405	410	415	
Asp	Ile	Val	Asp	Tyr	Leu	Arg	Asn	Tyr	Ile	Arg	Ile	His	Asp	Val	Cys	420	425	430	
Val	Ser	Leu	Gly	Ala	Gly	Asn	Ile	Tyr	Thr	Ile	Gly	Glu	Ala	Leu	Lys	435	440	445	
Asp	Phe	Asn	Pro	Lys	Lys	Leu	Ser	Ile	Gly	Leu	Val	Cys	Gly	Gly	Lys	450	455	460	
Ser	Cys	Glu	His	Asp	Ile	Ser	Leu	Leu	Ser	Ala	Gln	His	Val	Ser	Lys	465	470	475	480
Tyr	Ile	Ser	Pro	Glu	Phe	Tyr	Asp	Val	Ser	Tyr	Phe	Ile	Ile	Asn	Arg	485	490	495	
Gln	Gly	Leu	Trp	Arg	Thr	Gly	Lys	Asp	Phe	Pro	His	Leu	Ile	Glu	Glu	500	505	510	
Thr	Gln	Gly	Asp	Ser	Pro	Leu	Ser	Ser	Glu	Ile	Ala	Ser	Ala	Leu	Ala	515	520	525	
Lys	Val	Asp	Cys	Leu	Phe	Pro	Val	Leu	His	Gly	Pro	Phe	Gly	Glu	Asp	530	535	540	
Gly	Thr	Ile	Gln	Gly	Phe	Phe	Glu	Ile	Leu	Gly	Lys	Pro	Tyr	Ala	Gly	545	550	555	560
Pro	Ser	Leu	Ser	Leu	Ala	Ala	Thr	Ala	Met	Asp	Lys	Leu	Leu	Thr	Lys	565	570	575	
Arg	Ile	Ala	Ser	Ala	Val	Gly	Val	Pro	Val	Val	Pro	Tyr	Gln	Pro	Leu	580	585	590	
Asn	Leu	Cys	Phe	Trp	Lys	Arg	Asn	Pro	Glu	Leu	Cys	Ile	Gln	Asn	Leu	595	600	605	
Ile	Glu	Thr	Phe	Ser	Phe	Pro	Met	Ile	Val	Lys	Thr	Ala	His	Leu	Gly	610	615	620	
Ser	Ser	Ile	Gly	Ile	Phe	Leu	Val	Arg	Asp	Lys	Glu	Glu	Leu	Gln	Glu	625	630	635	640
Lys	Ile	Ser	Glu	Ala	Phe	Leu	Tyr	Asp	Thr	Asp	Val	Phe	Val	Glu	Glu	645	650	655	
Ser	Arg	Leu	Gly	Ser	Arg	Glu	Ile	Glu	Val	Ser	Cys	Ile	Gly	His	Ser	660	665	670	
Ser	Ser	Trp	Tyr	Cys	Met	Ala	Gly	Pro	Asn	Glu	Arg	Cys	Gly	Ala	Ser	675	680	685	
Gly	Phe	Ile	Asp	Tyr	Gln	Glu	Lys	Tyr	Gly	Phe	Asp	Gly	Ile	Asp	Cys	690	695	700	
Ala	Lys	Ile	Ser	Phe	Asp	Leu	Gln	Leu	Ser	Gln	Glu	Ser	Leu	Asp	Cys	705	710	715	720
Val	Arg	Glu	Leu	Ala	Glu	Arg	Val	Tyr	Arg	Ala	Met	Gln	Gly	Lys	Gly	725	730	735	
Ser	Ala	Arg	Ile	Asp	Phe	Phe	Leu	Asp	Glu	Glu	Gly	Asn	Tyr	Trp	Leu	740	745	750	
Ser	Glu	Val	Asn	Pro	Ile	Pro	Gly	Met	Thr	Ala	Ala	Ser	Pro	Phe	Leu	755	760	765	
Gln	Ala	Phe	Val	His	Ala	Gly	Trp	Thr	Gln	Glu	Gln	Ile	Val	Asp	His	770	775	780	

Phe Ile Ile Asp Ala Leu His Lys Phe Asp Lys Gln Gln Thr Ile Glu  
 785 790 795 800  
 Gln Ala Phe Thr Lys Glu Gln Asp Leu Val Lys Arg  
 805 810

<210> 908  
 <211> 199  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 908  
 Lys Trp Gly Ser Glu Val Leu Glu Leu Val Asn Asp Ser Gln Leu Ser  
 1 5 10 15  
 Arg Glu Ala Ser Ala Phe Arg Leu Asp Ile Asp Phe Phe Ile Leu Asn  
 20 25 30  
 Ile Tyr Pro Phe Phe Arg Asn Phe Lys Asn Ile Glu Leu Cys Phe Phe  
 35 40 45  
 Leu Ser Ile Ser Gln Phe Asn Leu Asp Met Glu Glu Phe Val Ala Tyr  
 50 55 60  
 Ile Val Lys Asn Leu Val Thr Asn Pro Glu Ala Val Glu Ile Arg Ser  
 65 70 75 80  
 Ile Glu Asp Glu Asp Asn Glu Ser Ile Lys Leu Glu Ile Arg Val Ala  
 85 90 95  
 Ala Glu Asp Ile Gly Lys Ile Ile Gly Arg Arg Gly Asn Thr Ile His  
 100 105 110  
 Ala Leu Arg Thr Ile Leu Arg Arg Val Cys Ser Arg Leu Lys Lys Lys  
 115 120 125  
 Val Gln Ile Asp Leu Val Gln Pro Glu Asn Gly Thr Asp Val Ile Ala  
 130 135 140  
 Asp Gln Asp Tyr Ile Cys Asp Asn Asp Ser Ser Asn Ser Thr Glu Asp  
 145 150 155 160  
 Thr Phe Gly Glu Ser Asp Thr Cys Cys Ser Gly His Cys His Tyr Asp  
 165 170 175  
 Glu Asp Leu Asn Gln Glu Glu Gln Glu Glu Gly Asn Met His His Ser  
 180 185 190  
 Cys Glu Cys Ser Asn His His  
 195

<210> 909  
 <211> 124  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 909  
 Phe Ala Phe Ser Lys Phe Leu Ile Ile Lys Ser Ser Met Thr Ala Val  
 1 5 10 15  
 Leu Ile Leu Thr Ser Phe Pro Ser Glu Ser Ala Arg Ser Leu Ala  
 20 25 30  
 Arg His Leu Ile Thr Glu Arg Leu Ala Ser Cys Val His Val Phe Pro  
 35 40 45  
 Lys Gly Thr Ser Thr Tyr Leu Trp Glu Gly Lys Leu Cys Glu Ser Glu  
 50 55 60  
 Glu His His Ile Gln Ile Lys Ser Ile Asp Ile Arg Phe Ser Glu Ile  
 65 70 75 80  
 Cys Leu Ala Ile Gln Glu Phe Ser Gly Tyr Glu Val Pro Glu Val Leu  
 85 90 95  
 Leu Phe Pro Ile Glu Asn Gly Asp Pro Arg Tyr Leu Asn Trp Leu Thr  
 100 105 110  
 Ile Leu Ser Tyr Pro Glu Lys Pro Pro Leu Ser Asp  
 115 120

<210> 910  
 <211> 276  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 910  
 Ile Leu Ala Ile Leu Phe Met Ile Ile Ile Lys Asn Asn Glu Leu Met  
 1 5 10 15  
 Ile Arg Arg Phe Phe Lys Thr Leu Phe Pro Pro Gly Pro Gln Tyr Ser  
 20 25 30  
 Leu Cys Tyr Ala Ser Ile Leu Ile Val Leu Ser Ser Leu Val Cys Val  
 35 40 45  
 Pro Thr Phe Cys Trp Leu Phe Leu Pro Glu Leu Ser Leu Ser Lys Phe  
 50 55 60  
 Asn Pro Ser Pro Ile Arg Asn Leu Phe Leu Val Ser Ser Thr Leu Ser  
 65 70 75 80  
 Lys Val Pro Pro Thr Ala Ile Ala Glu His Leu Arg Leu Ser Ala Asp  
 85 90 95  
 Ala Pro Thr Tyr Leu His Glu Phe Ser Ile Lys Glu Ala Glu Ser Ser  
 100 105 110  
 Leu His Ala Leu Gly Ile Phe Ser Ser Leu Val Ile Glu Lys Ser Pro  
 115 120 125  
 Asp Asn Lys Gly Ile Thr Ile Phe Tyr Thr Leu Gln Thr Pro Ile Ala  
 130 135 140  
 Tyr Val Gly Asn Arg Ser Asn Thr Leu Cys Asn Leu Glu Gly Ser Cys  
 145 150 155 160  
 Phe Leu Gly Gln Pro Tyr Phe Pro Ser Leu Asn Leu Pro Gln Ile Phe  
 165 170 175  
 Phe Ser Gln Glu Asp Leu Lys Met Gln Lys Leu Pro Lys Glu Lys Met  
 180 185 190  
 Leu Phe Thr Lys Ile Leu Leu Lys Glu Leu Ala Met Glu Ser Pro Lys  
 195 200 205  
 Ile Ile Asp Leu Ser Leu Ser Asp Ala Tyr Pro Gly Glu Ile Ile Val  
 210 215 220  
 Thr Leu Ser Ser Gly Ser Leu Leu Arg Leu Pro Ile Lys Thr Leu Asp  
 225 230 235 240  
 Arg Ala Leu Asp Leu Tyr Lys His Met Lys Lys Ser Pro Val Ile Glu  
 245 250 255  
 Ser Glu Lys Gln Tyr Val Tyr Asp Leu Arg Phe Pro Asn Phe Leu Leu  
 260 265 270  
 Leu Lys Ala Leu  
 275

<210> 911  
 <211> 125  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 911  
 Ile Ile Ser Leu Ile Phe Thr Arg Phe Leu Leu Glu Arg Leu Leu Met  
 1 5 10 15  
 Asn Leu Ser Ala Lys Glu Tyr Gly Asp Ile Ile Val Ile Tyr Leu Gln  
 20 25 30  
 Gly Ser Leu Asp Ala Val Ser Val Pro Ser Val Gln Glu Tyr Leu Glu  
 35 40 45  
 Gln Phe Ile Gln Lys Lys His Leu Lys Ile Ala Leu Asn Phe Thr Asp  
 50 55 60  
 Val Ser Tyr Ile Ser Ser Ala Gly Ile Arg Leu Leu Leu Ser Asn Phe  
 65 70 75 80  
 Lys Leu Val Gln Ser Leu Gly Gly Lys Met Cys Leu Cys Cys Val Lys  
 85 90 95



Glu Ser Val Thr Glu Val Met Arg Ile Ala Gly Leu Asp Gln Leu Ile  
100 105 110  
Leu Leu Cys Gln Ser Glu Gln Glu Cys Leu Ser Lys Leu  
115 120 125

<210> 912  
<211> 345  
<212> PRT  
<213> Chlamydia pneumoniae

<400> 912  
Phe Leu Tyr Met Leu Pro Phe Glu Phe Glu Phe Asn Thr Thr Ser Ser  
1 5 10 15  
Pro Glu Cys Asp Val Cys Leu Asp Pro Gln Lys Leu Phe Val Lys Leu  
20 25 30  
Phe Lys Arg Thr Ile Val Leu Leu Ser Gly Pro Thr Gly Ser Gly Lys  
35 40 45  
Thr Asp Val Ser Leu Ala Leu Ala Pro Met Ile Asp Gly Glu Ile Val  
50 55 60  
Ser Val Asp Ser Met Gln Val Tyr Gln Gly Met Asp Ile Gly Thr Ala  
65 70 75 80  
Lys Val Ser Leu Lys Ala Arg Gln Glu Ile Pro His His Leu Ile Asp  
85 90 95  
Ile Arg His Val Gln Glu Pro Phe Asn Val Val Asp Phe Tyr Tyr Glu  
100 105 110  
Ala Ile Gln Ala Cys Gln Asn Ile Leu Ser Arg Asn Lys Val Pro Ile  
115 120 125  
Leu Val Gly Gly Ser Gly Phe Tyr Phe His Ala Phe Leu Ser Gly Pro  
130 135 140  
Pro Lys Gly Pro Ala Ala Asp Pro Gln Ile Arg Glu Gln Leu Glu Ala  
145 150 155 160  
Ile Ala Glu Glu His Gly Val Ser Ala Leu Tyr Glu Asp Leu Leu Leu  
165 170 175  
Lys Asp Pro Glu Tyr Ala Gln Thr Ile Thr Lys Asn Asp Lys Asn Lys  
180 185 190  
Ile Ile Arg Gly Leu Glu Ile Ile Gln Leu Thr Gly Lys Lys Val Ser  
195 200 205  
Asp His Glu Trp Asp Ile Val Pro Lys Ala Ser Arg Glu Tyr Cys Cys  
210 215 220  
Arg Ala Trp Phe Leu Ser Pro Glu Thr Glu Phe Leu Lys Asn Asn Ile  
225 230 235 240  
Gln Met Arg Cys Glu Ala Met Leu Gln Glu Gly Leu Leu Glu Glu Val  
245 250 255  
Arg Gly Leu Leu Asn Gln Gly Ile Arg Glu Asn Pro Ser Ala Phe Lys  
260 265 270  
Ala Ile Gly Tyr Arg Glu Trp Ile Glu Phe Leu Asp Asn Gly Glu Lys  
275 280 285  
Leu Glu Glu Tyr Glu Glu Thr Lys Arg Lys Phe Val Ser Asn Ser Trp  
290 295 300  
His Tyr Thr Lys Lys Gln Lys Thr Trp Phe Lys Arg Tyr Ser Ile Phe  
305 310 315 320  
Arg Glu Leu Pro Thr Leu Gly Leu Ser Ser Asp Ala Ile Ala Gln Lys  
325 330 335  
Ile Ala Lys Asp Tyr Leu Leu Tyr Ser  
340 345

<210> 913  
<211> 365  
<212> PRT  
<213> Chlamydia pneumoniae

<400> 913

Ser	Leu	Leu	Leu	Ala	Ile	Phe	Asn	Val	Asn	Tyr	Phe	Met	Asn	Leu	Cys
1				5					10					15	
Lys	Arg	Ile	Ser	Phe	Glu	Glu	Gly	Leu	Glu	Leu	Phe	Val	Ser	Ser	Pro
			20					25					30		
Ile	Glu	Arg	Leu	Gln	Glu	Arg	Ala	Asp	Ala	Ile	Arg	Lys	Glu	Arg	Tyr
		35					40					45			
Pro	Ser	Asn	Glu	Val	Thr	Tyr	Val	Leu	Asp	Ala	Asn	Pro	Asn	Tyr	Thr
		50				55					60				
Asn	Ile	Cys	Lys	Ile	Asp	Cys	Thr	Phe	Cys	Ala	Phe	Tyr	Arg	Lys	Pro
65					70					75					80
Lys	Ser	Pro	Asp	Ala	Tyr	Leu	Leu	Ser	Phe	Asp	Glu	Val	Arg	Ser	Leu
			85						90				95		
Leu	Gln	Arg	Tyr	Val	Ser	Ser	Gly	Val	Lys	Thr	Val	Leu	Leu	Gln	Gly
			100					105					110		
Gly	Val	His	Pro	Gly	Leu	Gly	Ile	Asp	Tyr	Leu	Glu	Glu	Leu	Val	Arg
		115					120					125			
Ile	Thr	Val	Gln	Glu	Phe	Pro	Ser	Ile	His	Pro	His	Phe	Phe	Ser	Ala
		130				135					140				
Val	Glu	Ile	Glu	His	Ala	Cys	Arg	Val	Ser	Gly	Ile	Ser	Ile	Glu	Gln
145					150					155					160
Gly	Leu	Gln	Arg	Leu	Trp	Asp	Ala	Gly	Gln	Arg	Thr	Ile	Pro	Gly	Gly
			165					170						175	
Gly	Ala	Glu	Ile	Leu	Ser	Glu	Arg	Val	Arg	Lys	Ile	Ile	Ser	Pro	Lys
			180					185					190		
Lys	Met	Gln	Pro	Gly	Gly	Trp	Ile	Asn	Leu	His	Lys	Leu	Ala	His	Leu
		195					200					205			
Met	Gly	Phe	Arg	Thr	Thr	Ala	Thr	Met	Met	Phe	Gly	His	Val	Glu	Asn
	210					215					220				
Pro	Glu	Asp	Ile	Leu	Ile	His	Leu	Gln	Thr	Leu	Arg	Asp	Ala	Gln	Asp
225					230					235					240
Ser	Cys	Pro	Gly	Phe	Tyr	Ser	Phe	Ile	Pro	Trp	Ser	Tyr	Lys	Pro	Gly
			245					250						255	
Asn	Thr	Ala	Leu	Arg	Arg	Asn	Val	Pro	Gln	Gln	Ala	Ser	Ile	Glu	Thr
		260						265					270		
Tyr	Tyr	Arg	Ile	Leu	Ala	Leu	Gly	Arg	Ile	Phe	Leu	Asp	Asn	Phe	Asp
		275					280					285			
His	Val	Ala	Ala	Ser	Trp	Phe	Gly	Glu	Gly	Lys	Ser	Leu	Gly	Ala	Lys
		290				295				300					
Ala	Leu	His	Tyr	Gly	Ala	Asp	Asp	Phe	Gly	Gly	Val	Ile	Leu	Asp	Glu
305					310					315					320
Ser	Val	His	Lys	Ala	Thr	Gly	Trp	Ser	Ile	Gln	Ser	Ser	Glu	Glu	Glu
			325					330						335	
Ile	Cys	Asn	Ile	Ile	Arg	Ser	Glu	Gly	Phe	Ile	Pro	Val	Glu	Arg	Asn
			340					345					350		
Thr	Phe	Tyr	Gln	His	Ile	Ser	Cys	Thr	Val	Ser	Ser	Leu			
		355					360					365			

<210> 914

<211> 547

<212> PRT

<213> Chlamydia pneumoniae

<400> 914

Val	Val	Ile	Met	Asp	Asn	Ser	Asp	Asn	Ser	Phe	His	Thr	Leu	Glu	Thr
1				5					10					15	
Glu	Gln	Gly	Ser	Phe	Leu	Asn	Asp	Glu	Leu	Ala	Val	Glu	Glu	Val	Ala
			20					25					30		
Ser	Thr	Glu	Ser	Thr	Glu	Ile	Ser	Asp	Ala	Thr	Leu	Cys	Phe	Ala	Glu
		35					40					45			

1123

Leu Glu Glu Leu Asp Ala Ser Ile Leu Glu Leu Lys Gln Gln Ile Gln  
 530 535 540  
 Gln Leu Leu  
 545

<210> 915  
 <211> 79  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 915  
 Arg Ile Gly Cys Lys Tyr Phe Arg Ile Glu Ala Thr Asp Ser Ala Ile  
 1 5 10 15  
 Ala Met Arg Arg Asn Cys Ile Tyr Ala Phe Asp Leu Asp Gly Thr Leu  
 20 25 30  
 Leu Lys Gly Asn Ser Ser Trp Ser Phe Tyr Cys Tyr Gly Leu Leu Gln  
 35 40 45  
 Gly Leu Phe Ser Tyr Lys Thr Leu Pro Pro Cys Ile Tyr Arg Phe Phe  
 50 55 60  
 Arg Phe Lys Phe Phe Phe Gly Ile Phe His Pro Ser Ile Ile Arg  
 65 70 75

<210> 916  
 <211> 163  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 916  
 Val Phe Phe Trp Asp Leu Pro Ser Phe Tyr Tyr Ser Ile Val Thr Arg  
 1 5 10 15  
 Leu Leu Ser Ser Val Pro Cys Asp Asp Leu Tyr Glu Val Ala Leu Asn  
 20 25 30  
 Phe Val Ser Thr Leu Thr Gly Ser Asp Phe Tyr Ala Pro Val Leu Glu  
 35 40 45  
 Lys Leu Glu Glu Ala Phe Ala Asp Thr Thr Gly Gln Val Ile Leu Phe  
 50 55 60  
 Ser Ser Ser Pro Asp Phe Ile Val His Pro Ile Ala Gln Gln Leu Gly  
 65 70 75 80  
 Ile Ser Ser Trp Tyr Ala Ser Cys Tyr Arg Asp Gln Ser Ala Glu Gln  
 85 90 95  
 Thr Ile Tyr Lys Lys Cys Leu Thr Gly Asp Lys Lys Ala Gln Ile Leu  
 100 105 110  
 Ser Tyr Ile Lys Lys Ile Asn Gln Ala Arg Ser His Thr Phe Ser Asp  
 115 120 125  
 His Ile Leu Asp Leu Pro Phe Leu Met Leu Gly Glu Glu Lys Thr Val  
 130 135 140  
 Val Arg Pro Gln Gly Arg Leu Lys Lys Met Ala Lys Lys Tyr Tyr Trp  
 145 150 155 160  
 Asn Ile Val

<210> 917  
 <211> 139  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 917  
 Phe His Leu Lys Lys Ser Ser Thr Leu Ser Trp Ile Ile Glu Tyr Pro  
 1 5 10 15  
 Lys Ala Gly Phe Met Asp Ser Phe Cys Phe Asp Leu Leu Lys Val Ala  
 20 25 30

Ala Lys Ala Ile Asp Asp Lys Lys Gly Asn Asn Leu Val Val Leu Asp  
35 40 45  
Val Arg Thr Ile Ser Glu Phe Thr Asp Tyr Phe Val Phe Val Glu Gly  
50 55 60  
Ser Val Asn Val His Val Lys Ala Leu Ala Asn Thr Ile Val Glu Glu  
65 70 75 80  
Leu Lys Lys Gln Lys Val Ser Pro Leu His Val Glu Gly Ile Thr Asp  
85 90 95  
Gly Asn Trp Val Val Ile Asp Tyr Gly Phe Ile Val Val His Val Phe  
100 105 110  
Val Ser Glu Ile Arg Gly Lys Tyr Arg Leu Glu Glu Leu Trp Lys Asp  
115 120 125  
Gly Phe Ile Val Thr Ser Lys Leu Leu Ala Ser  
130 135

<210> 918

<211> 424

<212> PRT

<213> Chlamydia pneumoniae

<400> 918

Leu Leu Asn Gly Val Arg Val Tyr Met Ser Lys Lys Arg Val Val Val  
1 5 10 15  
Thr Gly Phe Gly Val Val Ser Cys Leu Gly Asn Glu Val Asp Thr Phe  
20 25 30  
Tyr Asp Asn Leu Leu Ala Gly Val Ser Gly Val Arg Pro Ile Thr Ser  
35 40 45  
Phe Pro Cys Glu Asp Tyr Ala Thr Arg Phe Ala Gly Trp Ile Pro Glu  
50 55 60  
Phe Asn Pro Glu Pro Tyr Val Asp Lys Lys Gln Ala Arg Arg Val Asp  
65 70 75 80  
Pro Phe Ile Thr Tyr Ala Met Val Ala Ala Lys Lys Ala Ile Ala Met  
85 90 95  
Ser Arg Trp Asp Lys Asp His Leu Pro Ser Asp Pro Val Arg Cys Gly  
100 105 110  
Val Ile Val Gly Ser Gly Met Gly Gly Leu Ser Thr Leu Asp Gln Gly  
115 120 125  
Met Glu Arg Leu Leu Val Ile His Lys Lys Leu Ser Pro Phe Phe Ile  
130 135 140  
Pro Tyr Ile Ile Thr Asn Met Ala Pro Ala Leu Ile Ala Met Asp Phe  
145 150 155 160  
Gly Leu Met Gly Pro Asn Tyr Ser Ile Ser Thr Ala Cys Ala Thr Gly  
165 170 175  
Asn Tyr Cys Ile Asp Ala Ala Tyr Gln His Leu Val Ser Gly Arg Ala  
180 185 190  
Asp Met Ile Ile Cys Gly Gly Thr Glu Ala Ala Val Asn Arg Ile Gly  
195 200 205  
Leu Glu Gly Phe Ile Ala Asn Arg Ala Leu Ser Glu Arg Asn Asp Ala  
210 215 220  
Pro Asp Gln Ala Ser Arg Pro Trp Asp Arg Asp Arg Asp Gly Phe Val  
225 230 235 240  
Leu Gly Glu Gly Ala Gly Ile Leu Val Leu Glu Thr Leu Glu Ser Ala  
245 250 255  
Leu Arg Arg Asp Ala Pro Ile Phe Ala Glu Met Leu Gly Ser Tyr Val  
260 265 270  
Thr Cys Asp Ala Phe His Ile Thr Ala Pro Arg Asp Asp Gly Glu Gly  
275 280 285  
Ile Thr Ala Cys Val Leu Gly Ala Leu Asn Ser Ala Gly Ile Pro Lys  
290 295 300  
Glu Arg Val Asn Tyr Val Asn Ala His Gly Thr Ser Thr Pro Leu Gly  
305 310 315 320



Asn	Tyr	Ser	Gly	Glu	Gln	Thr	Arg	Arg	Glu	Gly	Ile	Gln	Gly	Asp	Lys
				85					90					95	
Asp	Pro	Leu	Asp	Val	Cys	Val	Leu	Thr	Glu	Lys	Asn	Ile	His	His	Gly
			100					105					110		
Asn	Ile	Leu	Leu	Gln	Ala	Arg	Pro	Ile	Gly	Gly	Leu	Arg	Ile	Ile	Asp
		115					120					125			
Ser	Gly	Glu	Ala	Asp	Asp	Lys	Ile	Ile	Ala	Val	Leu	Glu	Asp	Asp	Leu
	130					135					140				
Val	Phe	Ala	Glu	Ile	Glu	Asp	Ile	Ser	Asp	Cys	Pro	Gly	Thr	Val	Leu
145					150				155						160
Asp	Met	Ile	Gln	His	Tyr	Phe	Leu	Thr	Tyr	Lys	Ala	Thr	Pro	Asn	His
			165					170						175	
Leu	Ile	Lys	Gly	Ser	Pro	Ala	Lys	Ile	Glu	Ile	Val	Gly	Ile	Tyr	Gly
			180					185					190		
Lys	Lys	Glu	Ala	Gln	Lys	Val	Ile	Gln	Leu	Ala	His	Glu	Asp	Tyr	Leu
		195				200						205			
Ser	Tyr	Ile	Gly	Asp	Thr	Ala	Glu	Val	Asn						
	210					215									

<210> 921

<211> 352

<212> PRT

<213> Chlamydia pneumoniae

<400> 921

Phe	Met	Lys	Tyr	Ser	Leu	Asn	Phe	Lys	Glu	Ile	Lys	Ile	Asp	Asp	Tyr
1				5					10				15		
Glu	Arg	Val	Ile	Glu	Val	Thr	Cys	Ser	Lys	Val	Arg	Leu	His	Ala	Ile
		20					25					30			
Ile	Ala	Ile	His	Gln	Thr	Ala	Val	Gly	Pro	Ala	Leu	Gly	Gly	Val	Arg
		35				40					45				
Ala	Ser	Leu	Tyr	Ser	Ser	Phe	Glu	Asp	Ala	Cys	Thr	Asp	Ala	Leu	Arg
	50					55				60					
Leu	Ala	Arg	Gly	Met	Thr	Tyr	Lys	Ala	Ile	Ile	Ser	Asn	Thr	Gly	Thr
65				70					75					80	
Gly	Gly	Gly	Lys	Ser	Val	Ile	Ile	Leu	Pro	Gln	Asp	Ala	Pro	Ser	Leu
			85					90					95		
Thr	Glu	Asp	Met	Leu	Arg	Ala	Phe	Gly	Gln	Ala	Val	Asn	Ala	Leu	Glu
		100					105					110			
Gly	Thr	Tyr	Ile	Cys	Ala	Glu	Asp	Leu	Gly	Val	Ser	Ile	Asn	Asp	Ile
		115				120					125				
Ser	Ile	Val	Ala	Glu	Glu	Thr	Pro	Tyr	Val	Cys	Gly	Ile	Ala	Asp	Val
	130					135					140				
Ser	Gly	Asp	Pro	Ser	Ile	Tyr	Thr	Ala	His	Gly	Gly	Phe	Leu	Cys	Ile
145				150					155					160	
Lys	Glu	Thr	Ala	Lys	Tyr	Leu	Trp	Gly	Ser	Ser	Ser	Leu	Arg	Gly	Lys
			165					170					175		
Lys	Ile	Ala	Ile	Gln	Gly	Ile	Gly	Ser	Val	Gly	Arg	Arg	Leu	Leu	Gln
		180					185						190		
Ser	Leu	Phe	Phe	Glu	Gly	Ala	Glu	Leu	Tyr	Val	Ala	Asp	Val	Leu	Glu
	195					200					205				
Arg	Ala	Val	Gln	Asp	Ala	Ala	Arg	Leu	Tyr	Gly	Ala	Thr	Ile	Val	Pro
	210				215						220				
Thr	Glu	Glu	Ile	His	Ala	Leu	Glu	Cys	Asp	Ile	Phe	Ser	Pro	Cys	Ala
225				230					235					240	
Arg	Gly	Asn	Val	Ile	Arg	Lys	Asp	Asn	Leu	Ala	Asp	Leu	Asn	Cys	Lys
			245					250						255	
Ala	Ile	Val	Gly	Val	Ala	Asn	Asn	Gln	Leu	Glu	Asp	Ser	Ser	Ala	Gly
		260					265					270			
Met	Met	Leu	His	Glu	Arg	Gly	Ile	Leu	Tyr	Gly	Pro	Asp	Tyr	Leu	Val
	275						280					285			

Asn	Ala	Gly	Gly	Leu	Leu	Asn	Val	Ala	Ala	Ala	Ile	Glu	Gly	Arg	Val
290						295					300				
Tyr	Ala	Pro	Lys	Glu	Val	Leu	Leu	Lys	Val	Glu	Glu	Leu	Pro	Ile	Val
305					310					315					320
Leu	Ser	Lys	Leu	Tyr	Asn	Gln	Ser	Lys	Thr	Thr	Gly	Lys	Asp	Leu	Val
				325					330					335	
Ala	Leu	Ser	Asp	Ser	Phe	Val	Glu	Asp	Lys	Leu	Leu	Ala	Tyr	Thr	Ser
			340					345						350	

<210> 922

<211> 331

<212> PRT

<213> Chlamydia pneumoniae

<400> 922

Ile	Leu	Glu	Glu	Asn	Ser	Met	His	Ser	Glu	Leu	Pro	Asn	Tyr	Gln	Asn
1				5					10					15	
Ile	Val	Glu	Ser	Val	Val	Thr	Glu	Ile	Thr	Thr	Gln	Leu	Leu	Asn	Tyr
			20					25					30		
Arg	Ser	Glu	His	Arg	Leu	Val	Pro	Phe	Trp	Glu	Lys	Ser	Asp	Gly	Ser
		35					40					45			
Phe	Ile	Thr	Ala	Ala	Asp	Tyr	Gly	Ser	Gln	Tyr	Tyr	Leu	Lys	Gln	Gln
50					55					60					
Leu	Ala	Lys	Ala	Phe	Pro	Asn	Ile	Pro	Phe	Ile	Gly	Glu	Glu	Thr	Leu
65					70					75					80
Tyr	Pro	Asp	Gln	Asp	Asn	Glu	Lys	Ile	Pro	Glu	Ile	Leu	Lys	Phe	Thr
				85				90						95	
Arg	Leu	Leu	Thr	Ser	Ser	Val	Ser	Arg	Asp	Asp	Leu	Ile	Ser	Thr	Leu
			100					105					110		
Val	Pro	Pro	Pro	Ser	Pro	Thr	Ser	Leu	Phe	Trp	Leu	Val	Asp	Pro	Ile
		115					120					125			
Asp	Gly	Thr	Ala	Gly	Phe	Ile	Arg	His	Arg	Ala	Phe	Ala	Val	Ala	Ile
130						135				140					
Ser	Leu	Ile	Tyr	Glu	Tyr	Arg	Pro	Ile	Leu	Ser	Val	Met	Ala	Cys	Pro
145					150					155					160
Ala	Tyr	Asn	Gln	Thr	Phe	Lys	Leu	Tyr	Ser	Ala	Ala	Lys	Gly	His	Gly
				165				170						175	
Leu	Ser	Ile	Val	His	Ser	Gln	Asn	Leu	Asp	Arg	Arg	Phe	Val	Tyr	Ala
			180					185					190		
Asp	Arg	Lys	Gln	Thr	Lys	Gln	Phe	Cys	Glu	Ala	Ser	Leu	Ala	Ala	Leu
		195					200					205			
Asn	Gln	Gln	His	His	Ala	Thr	Arg	Lys	Leu	Ser	Leu	Gly	Leu	Pro	Asn
210						215						220			
Thr	Pro	Ser	Pro	Arg	Arg	Val	Glu	Ser	Gln	Tyr	Lys	Tyr	Ala	Leu	Val
225					230					235					240
Ala	Glu	Gly	Ala	Val	Asp	Phe	Phe	Ile	Arg	Tyr	Pro	Phe	Ile	Asp	Ser
				245				250						255	
Pro	Ala	Arg	Ala	Trp	Asp	His	Val	Pro	Gly	Ala	Phe	Leu	Val	Glu	Glu
			260					265					270		
Ala	Gly	Gly	Arg	Val	Thr	Asp	Ala	Leu	Gly	Ala	Pro	Leu	Glu	Tyr	Arg
		275					280					285			
Lys	Glu	Ser	Leu	Val	Leu	Asn	Asn	His	Ala	Val	Ile	Leu	Ala	Ser	Gly
290						295					300				
Asp	Gln	Glu	Thr	His	Glu	Thr	Thr	Leu	Ala	Ala	Leu	Gln	Asn	Gln	Leu
305					310					315					320
Asn	Val	Val	Pro	Thr	Asp	Lys	Leu	Ile	Ala	Leu					
				325					330						



<210> 923  
 <211> 256  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 923  
 Gly Glu Leu Met Leu Ile Lys Leu Trp Arg Ala Thr Tyr Glu Gly Met  
 1 5 10 15  
 Tyr Thr Phe Leu Val Gly Ala Leu Leu Lys Leu Arg Tyr Arg Met Gln  
 20 25 30  
 Val Glu Gly Trp Asp Thr Leu Asn Ile Asn Pro Lys Gln Gly Cys Leu  
 35 40 45  
 Phe Leu Ala Asn His Val Ala Glu Val Asp Pro Ile Ile Leu Glu Tyr  
 50 55 60  
 Leu Phe Trp Ser Arg Phe His Val Arg Pro Met Ala Val Glu Tyr Leu  
 65 70 75 80  
 Phe His Ser Arg Val Val Gln Trp Phe Leu Asn Ser Val Arg Ser Ile  
 85 90 95  
 Pro Ile Pro Gln Leu Val Pro Gly Lys Glu Ser Lys Arg Ser Leu Glu  
 100 105 110  
 Arg Met Asn Val Cys Tyr Glu Glu Ala Ser Arg Ala Leu Asn Arg Gly  
 115 120 125  
 Glu Ser Leu Leu Leu Tyr Pro Ser Gly Arg Leu Ser Arg Thr Gly Lys  
 130 135 140  
 Glu Glu Ile Val Asn Gln Tyr Ser Ala Tyr Val Leu Leu His Arg Val  
 145 150 155 160  
 Met Glu Cys Asn Val Val Leu Val Arg Val Ser Gly Leu Trp Gly Ser  
 165 170 175  
 Ala Phe Ser Arg Tyr Lys Gln Asn Ser Thr Pro Lys Leu Gly Pro Ala  
 180 185 190  
 Phe Lys Glu Ala Phe Arg Ala Leu Leu Arg Arg Gly Ile Phe Phe Met  
 195 200 205  
 Pro Lys Arg Phe Val Lys Ile Thr Leu Cys Gln Val Asp His Leu Phe  
 210 215 220  
 Leu Lys Gln Phe Pro Thr Lys Gln Asp Leu Asn Thr Phe Leu Ala Ser  
 225 230 235 240  
 Trp Phe Asn Gln Gly Asp Asp Asn Leu Pro Ile Glu Val Pro Tyr Ala  
 245 250 255

<210> 924  
 <211> 554  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 924  
 Gln Phe Ala His Arg Ser Ser Leu Arg Ile Thr Arg Lys Leu Arg Arg  
 1 5 10 15  
 Met His Asp Gln Arg Asn Arg Gly His Asn Asn His Asn Leu Arg Leu  
 20 25 30  
 Arg Pro Gly Ser Thr Leu Leu Glu Ala Phe Leu Ile Leu Cys Ser Glu  
 35 40 45  
 His Glu Glu Gly Ile Ala Cys Phe Asp Glu His Leu Gly Ser Leu Ser  
 50 55 60  
 Tyr Arg Glu Leu Arg Asn Ala Ile Ile Ala Val Ala Ile Lys Val Ser  
 65 70 75 80  
 Lys Phe Ser Glu Asp Arg Val Gly Val Met Met Pro Ala Ser Ile Gly  
 85 90 95  
 Ala Phe Ile Ala Tyr Phe Gly Ile Leu Leu Ala Gly Lys Thr Pro Val  
 100 105 110  
 Met Met Asn Trp Ser Gln Gly Leu Arg Glu Leu Arg Ala Cys Thr Lys  
 115 120 125

Thr	Val	Glu	Val	Arg	Arg	Val	Leu	Thr	Ser	Gln	Gln	Phe	Ile	Lys	His
130						135					140				
Leu	Thr	Glu	Val	Gln	Gly	Phe	Val	Glu	Tyr	Pro	Phe	Asp	Leu	Met	Tyr
145					150					155					160
Met	Glu	Asp	Val	Arg	Lys	Arg	Leu	Ser	Trp	Trp	Glu	Lys	Cys	Arg	Ile
				165					170					175	
Gly	Leu	Tyr	Ser	Lys	Cys	Ser	Val	Pro	Trp	Leu	Leu	Arg	Ile	Phe	Gly
			180					185					190		
Val	Ser	Gly	Val	Glu	Ser	Asp	Asp	Thr	Ala	Val	Ile	Leu	Phe	Thr	Ser
		195					200					205			
Gly	Thr	Glu	Lys	Leu	Pro	Lys	Ala	Val	Pro	Leu	Thr	His	Lys	Asn	Leu
	210					215					220				
Met	Glu	Asn	Gln	Glu	Ala	Cys	Leu	Lys	Phe	Phe	Asp	Pro	Asn	Thr	Gln
225					230					235					240
Asp	Val	Met	Leu	Ala	Phe	Leu	Pro	Pro	Phe	His	Ala	Tyr	Gly	Phe	Asn
				245					250					255	
Ser	Cys	Gly	Leu	Phe	Pro	Leu	Leu	Met	Gly	Val	His	Val	Val	Phe	Ala
			260					265					270		
Ser	Asn	Pro	Leu	Asn	Pro	Lys	Lys	Leu	Val	Glu	Phe	Ile	Asp	Asp	Lys
		275					280					285			
Lys	Val	Thr	Phe	Phe	Gly	Ser	Thr	Pro	Val	Phe	Phe	Asp	Tyr	Ile	Leu
	290					295					300				
Lys	Thr	Ala	Lys	Lys	Gln	Asn	Ser	Cys	Leu	Glu	Ser	Leu	Arg	Leu	Val
305					310					315					320
Val	Ile	Gly	Gly	Asp	Ala	Leu	Lys	Asp	Thr	Leu	Tyr	Glu	Glu	Thr	Lys
				325					330					335	
Lys	Leu	Gln	Pro	Gln	Ile	Ala	Leu	Tyr	Gln	Gly	Tyr	Gly	Ala	Thr	Glu
			340					345					350		
Cys	Ser	Pro	Val	Ile	Ser	Ile	Thr	Lys	Glu	Ser	Pro	Arg	Lys	Ser	
		355					360				365				
Glu	Cys	Val	Gly	Met	Pro	Ile	Glu	Gly	Met	Asp	Val	Leu	Ile	Ile	Ser
	370					375					380				
Lys	Glu	Thr	His	Ile	Pro	Val	Ser	Ser	Gly	Glu	Gln	Gly	Leu	Ile	Val
385					390					395					400
Val	Arg	Gly	Asn	Ser	Val	Phe	Ser	Gly	Tyr	Leu	Gly	Asn	His	Glu	His
			405						410					415	
Gln	Ser	Phe	Val	Ser	Leu	Gly	Gly	Asp	Gln	Trp	Tyr	Leu	Thr	Gly	Asp
			420					425					430		
Leu	Gly	His	Ile	Gly	Pro	Ser	Gly	Asp	Leu	Phe	Leu	Glu	Gly	Arg	Leu
		435					440					445			
Ser	Arg	Phe	Val	Lys	Ile	Gly	Gly	Glu	Met	Val	Ser	Leu	Glu	Ala	Leu
	450					455					460				
Glu	Ser	Ile	Leu	His	Glu	His	Phe	Thr	Glu	Asn	Gln	Asn	Glu	Asp	Ala
465					470					475					480
Gly	Ser	Leu	Val	Val	Cys	Gly	Ile	Pro	Gly	Asp	Lys	Val	Arg	Leu	Cys
				485					490					495	
Leu	Phe	Thr	Thr	Leu	Ala	Thr	Thr	Ile	His	Glu	Val	Asn	Asp	Ile	Leu
			500					505					510		
Lys	Ser	Ala	Glu	Thr	Ser	Ser	Ile	Val	Lys	Ile	Ser	Tyr	Val	His	Gln
		515					520					525			
Val	Glu	Ser	Ile	Pro	Ile	Leu	Gly	Ile	Gly	Lys	Pro	Asp	Tyr	Val	Ser
	530					535					540				
Leu	Asn	Ala	Leu	Ala	Val	Ser	Leu	Phe	Gly						
545					550										

<210> 925

<211> 376

<212> PRT

<213> Chlamydia pneumoniae

<400> 925

Val	Cys	Lys	Glu	Ser	Phe	Leu	Thr	Thr	Ser	Asp	Val	Ile	Asp	Phe	Val
1				5					10					15	
Thr	Asn	Asp	Phe	Leu	Gly	Phe	Ala	Arg	Ser	Pro	Thr	Ile	Tyr	Cys	Glu
			20					25					30		
Val	Ser	Lys	Arg	Phe	Gln	Ile	His	Cys	Gln	Gln	Phe	Pro	His	Glu	Lys
		35					40					45			
Leu	Gly	Ile	Arg	Gly	Ser	Arg	Leu	Met	Val	Gly	Pro	Ser	Ser	Val	Ile
	50					55					60				
Asp	Asp	Leu	Glu	Ser	Lys	Ile	Ala	Ser	Tyr	His	Gly	Ala	Pro	Asn	Ala
65					70					75					80
Phe	Ile	Val	Asn	Ser	Gly	Tyr	Met	Ala	Asn	Leu	Gly	Leu	Cys	His	His
				85					90					95	
Val	Ser	Arg	Ser	Thr	Asp	Val	Leu	Leu	Trp	Asp	Glu	Glu	Val	His	Met
			100					105					110		
Ser	Val	Val	His	Ser	Leu	Ser	Ala	Ile	Ser	Gly	Gln	His	His	Thr	Phe
		115					120					125			
His	His	Asn	Asn	Leu	Glu	His	Leu	Glu	Ser	Leu	Leu	Gln	Cys	Tyr	Arg
	130					135					140				
Ile	Ser	Ser	Lys	Gly	Arg	Ile	Phe	Ile	Phe	Val	Ser	Ser	Val	Tyr	Ser
145					150					155					160
Phe	Arg	Gly	Thr	Leu	Ala	Pro	Leu	Glu	Gln	Ile	Ile	Ala	Leu	Ser	Lys
				165					170					175	
Lys	Tyr	His	Ala	His	Leu	Ile	Val	Asp	Glu	Ala	His	Ala	Met	Gly	Ile
			180					185					190		
Phe	Gly	Asp	Asp	Gly	Lys	Gly	Leu	Cys	His	Ala	Leu	Gly	Tyr	Glu	Asn
	195					200					205				
Phe	Tyr	Ala	Val	Leu	Val	Thr	Tyr	Gly	Lys	Ala	Leu	Gly	Thr	Met	Gly
	210					215					220				
Ala	Ser	Leu	Leu	Thr	Ser	Ser	Glu	Val	Lys	Tyr	Asp	Leu	Met	Gln	Asn
225					230					235					240
Ser	Pro	Pro	Leu	Arg	Tyr	Ser	Thr	Ser	Leu	Ser	Pro	His	Thr	Leu	Ile
				245					250					255	
Ser	Ile	Gly	Thr	Ala	Tyr	Asp	Phe	Leu	Ala	Ser	Glu	Gly	Glu	Ile	Ala
			260				265						270		
Arg	Lys	Gln	Val	Phe	Lys	Leu	Lys	Glu	His	Phe	His	Glu	Cys	Phe	Asp
		275					280					285			
Ser	His	Ala	Pro	Gly	Cys	Val	Gln	Pro	Ile	Phe	Leu	Pro	His	Thr	Cys
	290				295						300				
Leu	Glu	Glu	Ala	Ile	Ser	Val	Leu	Glu	Thr	Thr	Gly	Ile	His	Val	Gly
305					310					315					320
Val	Val	Ala	Phe	Ala	Lys	His	Pro	Phe	Leu	Arg	Val	Asn	Leu	His	Ala
				325					330					335	
Tyr	Asn	Thr	Val	Asp	Glu	Val	Asn	Leu	Leu	Ala	Gln	Val	Met	Lys	Pro
			340				345						350		
Tyr	Leu	Glu	Lys	Ser	Ser	His	Arg	Val	His	Ile	Asn	His	Glu	Phe	His
		355				360					365				
Leu	Trp	Arg	Glu	Leu	Cys	Gln	His								
	370					375									

<210> 926

<211> 758

<212> PRT

<213> Chlamydia pneumoniae

<400> 926

Lys	Arg	Phe	Thr	Ala	Lys	Thr	Lys	Ser	Met	Gly	Tyr	Ile	Glu	Ser	Ser
1				5				10						15	
Thr	Phe	Arg	Leu	Tyr	Ala	Glu	Val	Ile	Val	Gly	Ser	Asn	Ile	Asn	Lys
			20					25					30		



Leu Gln Tyr Arg Gly Ser Gly Thr Glu Lys Ile Glu Lys Ile Leu Gln  
 515 520 525  
 Gln Ile Phe Pro Gln Ile Arg Thr Ile Arg Ile Asp Ser Asp Thr Thr  
 530 535 540  
 Lys Phe Lys Gly Ser His Glu Thr Leu Leu Arg Gln Phe Ala Thr Gly  
 545 550 555 560  
 Lys Ala Asp Val Leu Ile Gly Thr Gln Met Ile Ala Lys Gly Met Asn  
 565 570 575  
 Phe Ser Ala Val Thr Leu Ala Val Ile Leu Asn Gly Asp Ser Gly Leu  
 580 585 590  
 Tyr Ile Pro Asp Phe Arg Ala Ser Glu Gln Val Phe Gln Leu Ile Thr  
 595 600 605  
 Gln Val Ala Gly Arg Ser Gly Arg Ser His Leu Pro Gly Glu Ile Leu  
 610 615 620  
 Ile Gln Ser Phe Leu Pro Asp His Pro Thr Ile His Ser Ala Met Arg  
 625 630 635 640  
 Gln Asp Tyr Ser Ala Phe Tyr Ser Gln Glu Ile Thr Gly Arg Glu Leu  
 645 650 655  
 Cys Glu Tyr Pro Pro Phe Ile Arg Leu Ile Arg Cys Ile Phe Met Gly  
 660 665 670  
 Lys Cys Pro Lys Gln Thr Trp Glu Glu Ala His Arg Val His Asn Ile  
 675 680 685  
 Leu Lys Glu Gln Leu Glu Ser Thr Asn Pro Leu Met Pro Val Thr Pro  
 690 695 700  
 Cys Gly His Phe Lys Ile Lys Asp Thr Phe Arg Tyr Gln Phe Leu Ile  
 705 710 715 720  
 Lys Ser Ala Tyr Val Ile Pro Val Asn Lys Lys Leu His His Ala Leu  
 725 730 735  
 Met Leu Ala Lys Leu Ser Pro Lys Val Lys Phe Met Ile Asp Val Asp  
 740 745 750  
 Pro Met Thr Thr Phe Phe  
 755

<210> 927

<211> 230

<212> PRT

<213> Chlamydia pneumoniae

<400> 927

Lys His Trp Leu Phe Met Glu Asn Ser Gln Asn Phe His Asp Thr Leu  
 1 5 10 15  
 Cys Gln Leu Leu Asp Arg Tyr Ser Glu Glu Leu Tyr Pro Thr Leu Ala  
 20 25 30  
 Ser Leu Leu Asn Val Thr Leu Pro Asn Thr Ala Ile Ser Ala Ser Val  
 35 40 45  
 Ser Ser Ile Pro Glu Lys Ala Val Glu Val Pro Asn Ala Glu Pro Gln  
 50 55 60  
 Pro Ile Thr Pro Pro Pro Thr Asn Leu Ser Gln Glu Lys Thr Lys  
 65 70 75 80  
 Pro Ser Asp Trp Lys Cys Val Pro Leu His Pro Asp Leu Ser Gln Asn  
 85 90 95  
 Ala Ile Leu Lys Glu Lys Tyr Pro Ala Leu Lys Asp Cys Ser Leu Pro  
 100 105 110  
 Ala Pro Lys Ile Pro Cys Ser Ile Phe Val Tyr Glu Glu Asn Asn Glu  
 115 120 125  
 Glu Val Leu Phe Phe Asn Arg Leu Ala Lys Ile Leu Thr Gln Gln Leu  
 130 135 140  
 Phe Pro Thr Lys Leu Thr Leu Ile His Ala Lys Thr Asn Ile Phe Val  
 145 150 155 160  
 Asn Asn Pro Asn Phe Phe Leu Ala Leu Ala Pro Leu Asn Val Ile Arg  
 165 170 175

Tyr	Lys	Ile	Pro	Thr	Thr	Asp	Tyr	His	Gln	Ser	Leu	Thr	Gln	Asn	Gly
			180					185					190		
Cys	Ile	Phe	Leu	Pro	Leu	Tyr	Ser	Ser	Leu	Glu	Tyr	Glu	Lys	Asp	Ser
		195					200					205			
Gln	Leu	Lys	Arg	Asn	Leu	Trp	Ala	Ile	Leu	Asn	Arg	Leu	Pro	Phe	Ala
	210					215					220				
Tyr	Thr	Pro	Lys	Ser	Ser										
225					230										

<210> 928  
 <211> 183  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 928

Cys	His	His	Thr	Gln	Gln	Thr	Tyr	Ser	Thr	Arg	Phe	Phe	Lys	Asp	Ser
1			5						10					15	
Asp	Met	Lys	Phe	Trp	Leu	Gln	Gly	Cys	Ala	Phe	Val	Gly	Cys	Leu	Leu
			20					25					30		
Leu	Thr	Leu	Pro	Cys	Cys	Ala	Ala	Arg	Arg	Arg	Ala	Ser	Gly	Glu	Asn
		35					40					45			
Leu	Gln	Gln	Thr	Arg	Pro	Ile	Ala	Ala	Ala	Asn	Leu	Gln	Trp	Glu	Ser
	50					55					60				
Tyr	Ala	Glu	Ala	Leu	Glu	His	Ser	Lys	Gln	Asp	His	Lys	Pro	Ile	Cys
65					70					75					80
Leu	Phe	Phe	Thr	Gly	Ser	Asp	Trp	Cys	Met	Trp	Cys	Ile	Lys	Met	Gln
				85					90					95	
Asp	Gln	Ile	Leu	Gln	Ser	Ser	Glu	Phe	Lys	His	Phe	Ala	Gly	Val	His
			100					105					110		
Leu	His	Met	Val	Glu	Val	Asp	Phe	Pro	Gln	Lys	Asn	His	Gln	Pro	Glu
		115					120						125		
Glu	Gln	Arg	Gln	Lys	Asn	Gln	Glu	Leu	Lys	Ala	Gln	Tyr	Lys	Val	Thr
	130					135					140				
Gly	Phe	Pro	Glu	Leu	Val	Phe	Ile	Asp	Ala	Glu	Gly	Lys	Gln	Leu	Ala
145					150					155					160
Arg	Met	Gly	Phe	Glu	Pro	Gly	Gly	Gly	Ala	Ala	Tyr	Val	Ser	Lys	Val
				165				170						175	
Lys	Ser	Ala	Leu	Lys	Leu	Arg									
			180												

<210> 929  
 <211> 383  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 929

Asp	Ser	Cys	Met	Ile	Pro	Ser	Pro	Thr	Pro	Ile	Asn	Phe	Arg	Asp	Asp
1				5					10					15	
Thr	Ile	Leu	Glu	Thr	Asp	Pro	Lys	Pro	Ser	Leu	Ile	Met	Phe	Ser	Ser
			20					25					30		
Lys	Lys	Thr	Glu	Ile	Ala	Ser	Glu	Arg	Arg	Lys	Ala	His	Pro	Thr	Leu
		35					40					45			
Phe	Lys	Val	Leu	Gly	Thr	Ile	Trp	Asn	Ile	Val	Lys	Phe	Ile	Ile	Ser
	50					55					60				
Ile	Ile	Leu	Phe	Leu	Pro	Leu	Ala	Leu	Leu	Trp	Val	Leu	Lys	Lys	Thr
65					70					75					80
Cys	Gln	Phe	Phe	Ile	Leu	Pro	Ser	Ser	Ile	Ile	Ser	Gln	Ser	Met	Ser
				85					90					95	
Lys	Thr	Ala	Val	Ala	Ile	Arg	Arg	Met	Thr	Phe	Leu	Ser	His	Ile	Lys
			100					105					110		

Gln Leu Leu Ser Leu Lys Glu Ile Ser Ala Ala Asp Arg Val Val Ile  
 115 120 125  
 Gln Tyr Asp Asp Leu Val Val Asp Ser Leu Ala Ile Lys Ile Pro His  
 130 135 140  
 Ala Leu Pro His Arg Trp Ile Leu Tyr Ser Gln Gly Asn Ser Gly Leu  
 145 150 155 160  
 Met Glu Asn Leu Phe Asp Arg Gly Asp Ser Ser Leu His Gln Leu Ala  
 165 170 175  
 Lys Ala Thr Gly Ser Asn Leu Leu Val Phe Asn Tyr Pro Gly Ile Met  
 180 185 190  
 Ser Ser Lys Gly Glu Ala Lys Arg Glu Asn Leu Val Lys Ser Tyr Gln  
 195 200 205  
 Ala Cys Val Arg Tyr Leu Arg Asp Glu Glu Thr Gly Pro Lys Ala Asn  
 210 215 220  
 Gln Ile Ile Ala Phe Gly Tyr Ser Leu Gly Thr Ser Val Gln Ala Ala  
 225 230 235 240  
 Ala Leu Asp Arg Glu Val Thr Asp Gly Ser Asp Gly Thr Ser Trp Ile  
 245 250 255  
 Val Val Lys Asp Arg Gly Pro Arg Ser Leu Ala Asp Val Ala Asn Gln  
 260 265 270  
 Ile Cys Lys Pro Ile Ala Ser Ala Ile Ile Lys Leu Val Gly Trp Asn  
 275 280 285  
 Ile Asp Ser Val Lys Pro Ser Glu Arg Leu Arg Cys Pro Glu Ile Phe  
 290 295 300  
 Ile Tyr Asn Ser Asn His Asp Gln Glu Leu Ile Ser Asp Gly Leu Phe  
 305 310 315 320  
 Glu Arg Glu Asn Cys Val Ala Thr Pro Phe Leu Glu Leu Pro Glu Val  
 325 330 335  
 Lys Thr Ser Gly Thr Lys Ile Pro Ile Pro Glu Arg Asp Leu Leu His  
 340 345 350  
 Leu Asn Pro Leu Ser Pro Asn Val Asp Arg Leu Ala Val Ile  
 355 360 365  
 Ser Asn Tyr Leu Asp Ser Glu Asn Arg Lys Ser Gln Gln Pro Asp  
 370 375 380

<210> 930

<211> 384

<212> PRT

<213> Chlamydia pneumoniae

<400> 930

Arg Arg Lys Asp Phe Ala Phe Thr Leu Leu Asn Leu Ser Asn Arg Ser  
 1 5 10 15  
 Asp Ile Leu Ser Gly Ile Phe Ser Asn Pro His Pro Val Ser Tyr Phe  
 20 25 30  
 Ser Ser Thr His Ala Lys Gln Leu Ser Asp Phe Ser Lys Lys His Pro  
 35 40 45  
 Ile Leu Thr Lys Ile Val Thr Ile Ile Val Lys Ile Phe Lys Leu Leu  
 50 55 60  
 Ile Gly Leu Ile Ile Pro Pro Leu Gly Ile Tyr Trp Leu Cys Gln Leu  
 65 70 75 80  
 Val Cys Ser Leu Ala Leu Phe Pro Arg Ser Ser Met Leu Tyr Ser Val  
 85 90 95  
 Leu Lys Thr Cys Phe Lys Lys Tyr Arg Leu Glu Gln Glu Ile Gln Asp  
 100 105 110  
 Tyr Phe Val Lys Asn Leu Asp Pro Ser Phe Lys Asp Pro Ala Val Ser  
 115 120 125  
 Glu Ser Lys Arg Ile Thr Ile Gln Gln Asp His Leu Thr Ile Asp Thr  
 130 135 140  
 Leu Ala Ile His Phe Ser Thr Ala Arg Pro Lys Arg Trp Leu Leu Ile  
 145 150 155 160

Ser	Leu	Gly	Ser	Gly	Asp	Phe	Leu	Glu	Asp	Met	Ile	Gly	Leu	Lys	Asp
			165						170					175	
Ser	Leu	Phe	Leu	Ser	Trp	Lys	Glu	Leu	Ala	Lys	Leu	Leu	Gly	Ala	Asn
		180						185					190		
Ile	Leu	Ile	Tyr	Asn	Tyr	Pro	Gly	Val	Lys	Ser	Ser	Thr	Gly	Lys	Leu
	195						200					205			
Asn	Leu	Glu	Asn	Leu	Ala	Thr	Ala	His	Asn	Leu	Cys	Ala	Lys	Tyr	Leu
	210					215					220				
Gln	Asp	Lys	Ile	Gln	Gly	Pro	Gly	Ala	Asn	Glu	Ile	Ile	Thr	Tyr	Gly
225					230				235						240
Tyr	Ser	Leu	Gly	Gly	Val	Val	Gln	Ser	Ala	Ala	Leu	Gln	Lys	Asn	Pro
			245						250					255	
Phe	Thr	Asn	Ser	Glu	Thr	Ser	Trp	Val	Ala	Val	Lys	Asp	Arg	Ala	Pro
		260						265					270		
His	Ser	Leu	Pro	Ala	Ala	Ala	Asn	Ser	Phe	Phe	Gly	Pro	Ile	Gly	Lys
	275						280					285			
Leu	Ile	Ala	Val	Leu	Ala	Arg	Trp	Lys	Met	Asp	Ala	Glu	Lys	Asn	Ser
	290					295					300				
Arg	Glu	Leu	Pro	Cys	Pro	Glu	Ile	Leu	Val	Tyr	Ser	Ala	Asp	Arg	Phe
305					310					315					320
Arg	Pro	Ser	Glu	Val	Gly	Asp	Asp	Thr	Ala	Leu	Leu	Pro	Glu	Phe	Thr
			325						330					335	
Leu	Ala	His	Ala	Ile	Lys	Arg	Thr	Pro	Phe	Ala	Arg	Ser	Lys	Lys	Phe
		340						345					350		
Ile	Gly	Glu	Val	Asn	Leu	Leu	His	Ser	Ser	Pro	Leu	Lys	His	Pro	Thr
	355						360					365			
Ile	Gln	Lys	Leu	Ala	Glu	Ala	Ile	Leu	Glu	Ser	Leu	Ser	Arg	Lys	Asn
	370					375					380				

<210> 931

<211> 372

<212> PRT

<213> Chlamydia pneumoniae

<400> 931

Glu	Lys	Phe	Met	Ala	Pro	Ile	His	Gly	Ser	Asn	Ala	Phe	Val	Glu	Asp
1				5					10					15	
Ile	Leu	His	Ser	His	Pro	Ser	Pro	Gln	Ala	Thr	Tyr	Phe	Ser	Ser	Thr
		20						25					30		
Arg	Ala	Gln	Lys	Leu	His	Glu	Phe	Lys	Asp	Arg	His	Pro	Val	Leu	Thr
	35						40					45			
Arg	Ile	Ala	Ser	Val	Ile	Ile	Lys	Ile	Phe	Lys	Val	Leu	Ile	Gly	Leu
	50					55					60				
Ile	Ile	Leu	Pro	Leu	Gly	Ile	Tyr	Trp	Leu	Cys	Gln	Thr	Leu	Cys	Thr
65					70					75					80
Asn	Ser	Ile	Leu	Pro	Ser	Lys	Asn	Leu	Leu	Lys	Ile	Phe	Lys	Lys	Gln
			85						90					95	
Pro	Asn	Thr	Lys	Thr	Leu	Lys	Thr	Asn	Tyr	Leu	His	Ala	Leu	Gln	Asp
		100						105					110		
Tyr	Ser	Ser	Lys	Asn	Arg	Val	Ala	Ser	Met	Arg	Arg	Val	Pro	Ile	Leu
		115					120					125			
Gln	Asp	Asn	Val	Leu	Ile	Asp	Thr	Leu	Glu	Ile	Cys	Leu	Ser	Gln	Ala
	130					135					140				
Pro	Thr	Asn	Arg	Trp	Met	Leu	Ile	Ser	Leu	Gly	Ser	Asp	Cys	Ser	Leu
145					150					155					160
Glu	Glu	Ile	Ala	Cys	Lys	Glu	Ile	Phe	Asp	Ser	Trp	Gln	Arg	Phe	Ala
			165						170					175	
Lys	Leu	Ile	Gly	Ala	Asn	Ile	Leu	Val	Tyr	Asn	Tyr	Pro	Gly	Val	Met
		180						185					190		
Ser	Ser	Thr	Gly	Ser	Ser	Ser	Leu	Lys	Asp	Leu	Ala	Ser	Ala	His	Asn
		195					200					205			



Ile Cys Thr Arg Tyr Leu Lys Asp Lys Glu Gln Gly Pro Gly Ala Lys  
 210 215 220  
 Glu Ile Ile Thr Tyr Gly Tyr Ser Leu Gly Gly Leu Ile Gln Ala Glu  
 225 230 235 240  
 Ala Leu Arg Asp Gln Lys Ile Val Ala Asn Asp Asp Thr Thr Trp Ile  
 245 250 255  
 Ala Val Lys Asp Arg Cys Pro Leu Phe Ile Ser Pro Glu Gly Phe His  
 260 265 270  
 Ser Cys Arg Arg Ile Gly Lys Leu Val Ala Arg Leu Phe Gly Trp Gly  
 275 280 285  
 Thr Lys Ala Val Glu Arg Ser Gln Asp Leu Pro Cys Leu Glu Ile Phe  
 290 295 300  
 Leu Tyr Pro Thr Asp Ser Leu Arg Arg Ser Thr Val Arg Gln Asn Lys  
 305 310 315 320  
 Leu Leu Ala Pro Glu Leu Thr Leu Ala His Ala Ile Lys Asn Ser Pro  
 325 330 335  
 Tyr Val Gln Asn Lys Glu Phe Ile Glu Val Arg Leu Ser Ser Asp Ile  
 340 345 350  
 Asp Pro Ile Asp Ser Lys Thr Arg Val Ala Leu Ala Thr Pro Ile Leu  
 355 360 365  
 Lys Lys Leu Ser  
 370

<210> 932  
 <211> 160  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 932  
 Asn Lys Met Ser Glu Leu Ala Pro Cys Ser Thr Gly Leu Gln Met Val  
 1 5 10 15  
 Pro His Thr Gln Val His His Ala Leu Asp Thr Arg Arg Val Ile Leu  
 20 25 30  
 Thr Ile Ala Ala Cys Leu Ser Leu Ile Ala Gly Ile Val Leu Val Gly  
 35 40 45  
 Leu Gly Ala Ala Ala Ile Leu Pro Ser Leu Phe Gly Val Ile Gly Gly  
 50 55 60  
 Met Ile Leu Ile Leu Phe Ser Ser Ile Ala Leu Ile Tyr Leu Tyr Lys  
 65 70 75 80  
 Lys Thr Arg Glu Val Asp Gln Ile Ala Leu Glu Pro Leu Pro Glu Met  
 85 90 95  
 Ile Ser Lys Asp Gln Ser Ile Ile Asp Phe Val Lys Thr Arg Asp Tyr  
 100 105 110  
 Ala Ser Leu Glu Lys Lys Ala Thr Phe Ala Tyr Thr His Thr His Tyr  
 115 120 125  
 Tyr Asp Gly Ser Met Val Phe Tyr Arg Glu Ile Pro Arg Phe Met Leu  
 130 135 140  
 Gly Ser Tyr Leu Ala Leu Arg Lys Asp Met Asp Arg Gln Ala Leu Phe  
 145 150 155 160

<210> 933  
 <211> 547  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 933  
 Ile Asp Phe Arg Val Leu Gly Trp Lys Ser Asp Ile Tyr Thr Asn Ile  
 1 5 10 15  
 Leu Glu Glu Arg Met Thr Ala Arg Ala Glu Tyr Leu Asp His Glu Asp  
 20 25 30

Phe Leu Tyr Arg Ser His Lys Leu Gln Glu Leu Ser Glu Leu Gly Val  
35 40 45  
Val Leu Tyr Pro Tyr Glu Phe Pro Gly Val Phe Ser Cys Glu Asp Ile  
50 55 60  
Lys Lys Thr Phe Ala Ser Gln Glu Leu Gly Asn Ser Glu Ala Ala Met  
65 70 75 80  
Ser Arg Ser Thr Pro Arg Val Arg Phe Ala Gly Arg Leu Val Leu Phe  
85 90 95  
Arg Ala Met Gly Lys Asn Ala Phe Gly Gln Ile Leu Asp His Asn Gln  
100 105 110  
Thr Ile Gln Val Met Phe Asn Arg Glu Phe Thr Ser Val His Gly Leu  
115 120 125  
Ser Glu Asp Ala Glu Ile Thr Pro Ile Lys Phe Ile Glu Lys Lys Leu  
130 135 140  
Asp Leu Gly Asp Ile Leu Gly Ile Asp Gly Tyr Leu Phe Phe Thr His  
145 150 155 160  
Ser Gly Glu Leu Thr Val Leu Val Glu Thr Val Thr Leu Leu Cys Lys  
165 170 175  
Ser Leu Leu Ser Leu Pro Asp Lys His Ala Gly Leu Ser Asp Lys Glu  
180 185 190  
Val Arg Tyr Arg Lys Arg Trp Leu Asp Leu Ile Ser Ser Arg Glu Val  
195 200 205  
Ser Asp Thr Phe Val Lys Arg Ser Tyr Ile Ile Lys Leu Ile Arg Asn  
210 215 220  
Tyr Met Asp Ala His Gly Phe Leu Glu Val Glu Thr Pro Ile Leu Gln  
225 230 235 240  
Asn Ile Tyr Gly Gly Ala Glu Ala Lys Pro Phe Thr Thr Thr Met Glu  
245 250 255  
Ala Leu His Ser Glu Met Phe Leu Arg Ile Ser Leu Glu Ile Ala Leu  
260 265 270  
Lys Lys Ile Leu Val Gly Gly Ala Pro Arg Ile Tyr Glu Leu Gly Lys  
275 280 285  
Val Phe Arg Asn Glu Gly Ile Asp Arg Thr His Asn Pro Glu Phe Thr  
290 295 300  
Met Ile Glu Ala Tyr Ala Ala Tyr Met Asp Tyr Lys Glu Val Met Val  
305 310 315 320  
Phe Val Glu Asn Leu Val Glu His Leu Val Arg Ala Val Asn His Asp  
325 330 335  
Asn Thr Ser Leu Val Tyr Ser Tyr Trp Lys His Gly Pro Gln Glu Val  
340 345 350  
Asp Phe Lys Ala Pro Trp Ile Arg Met Thr Met Lys Glu Ser Ile Ala  
355 360 365  
Thr Tyr Ala Gly Ile Asp Val Asp Val His Ser Asp Gln Lys Leu Lys  
370 375 380  
Glu Ile Leu Lys Lys Lys Thr Thr Phe Pro Glu Thr Ala Phe Ala Thr  
385 390 395 400  
Ala Ser Arg Gly Met Leu Ile Ala Ala Leu Phe Asp Glu Leu Val Ser  
405 410 415  
Asp Asn Leu Ile Ala Pro His His Ile Thr Asp His Pro Val Glu Thr  
420 425 430  
Thr Pro Leu Cys Lys Thr Leu Arg Ser Gly Asp Thr Ala Phe Val Glu  
435 440 445  
Arg Phe Glu Ser Phe Cys Leu Gly Lys Glu Leu Cys Asn Ala Tyr Ser  
450 455 460  
Glu Leu Asn Asp Pro Ile Arg Gln Arg Glu Leu Glu Gln Gln His  
465 470 475 480  
Thr Lys Lys Glu Leu Leu Pro Asp Ser Glu Cys His Pro Ile Asp Glu  
485 490 495  
Glu Phe Leu Glu Ala Leu Cys Gln Gly Met Pro Pro Ala Gly Gly Phe  
500 505 510

Gly Ile Gly Val Asp Arg Leu Val Met Ile Leu Thr Asn Ala Ala Ser  
 515 520 525  
 Ile Arg Asp Val Leu Tyr Phe Pro Val Met Arg Arg Phe Asp Ala Glu  
 530 535 540  
 Lys Thr Asn  
 545

<210> 934  
 <211> 480  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 934  
 Val Lys Ser Asp Thr Val Met Ala Phe Ser His Ile Glu Gly Leu Tyr  
 1 5 10 15  
 Phe Tyr Asn Thr Ala Ser Gln Lys Lys Glu Leu Phe Phe Pro Asn His  
 20 25 30  
 Thr Pro Val Arg Leu Tyr Thr Cys Gly Pro Thr Val Tyr Asp Tyr Ala  
 35 40 45  
 His Ile Gly Asn Phe Arg Thr Tyr Val Phe Glu Asp Ile Leu Lys Arg  
 50 55 60  
 Thr Leu Val Phe Phe Gly Tyr Ser Val Thr His Val Met Asn Ile Thr  
 65 70 75 80  
 Asp Val Glu Asp Lys Thr Ile Ala Gly Ala Ser Lys Lys Asn Ile Pro  
 85 90 95  
 Leu Gln Glu Tyr Thr Gln Pro Tyr Thr Glu Ala Phe Phe Glu Asp Leu  
 100 105 110  
 Asp Thr Leu Asn Ile Ala Arg Ala Asp Phe Tyr Pro His Ala Thr His  
 115 120 125  
 Tyr Ile Pro Gln Met Ile Gln Ala Ile Thr Lys Leu Leu Glu Gln Gly  
 130 135 140  
 Ile Ala Tyr Ile Gly Gln Asp Ala Ser Val Tyr Phe Ser Leu Asn Arg  
 145 150 155 160  
 Phe Pro Asn Tyr Gly Lys Leu Ser His Leu Asp Leu Ser Ser Leu Arg  
 165 170 175  
 Cys Cys Ser Arg Ile Ser Ala Asp Glu Tyr Asp Lys Glu Asn Pro Ser  
 180 185 190  
 Asp Phe Val Leu Trp Lys Ala Tyr Asn Pro Glu Arg Asp Gly Val Ile  
 195 200 205  
 Tyr Trp Glu Ser Pro Phe Gly Lys Gly Arg Pro Gly Trp His Leu Glu  
 210 215 220  
 Cys Ser Ile Met Ala Met Glu Leu Leu Gly Asp Ser Leu Asp Ile His  
 225 230 235 240  
 Ala Gly Gly Val Asp Asn Ile Phe Pro His His Glu Asn Glu Ile Ala  
 245 250 255  
 Gln Ser Glu Ala Leu Ser Gly Lys Pro Phe Ala Arg Tyr Trp Leu His  
 260 265 270  
 Ser Glu His Leu Leu Ile Asp Gly Lys Lys Met Ser Lys Ser Leu Gly  
 275 280 285  
 Asn Phe Leu Thr Leu Arg Asp Leu Leu His Gln Glu Phe Thr Gly Gln  
 290 295 300  
 Glu Val Arg Tyr Met Leu Leu Gln Ser His Tyr Arg Thr Gln Leu Asn  
 305 310 315 320  
 Phe Thr Glu Glu Ala Leu Leu Ala Cys Arg His Ala Leu Arg Arg Leu  
 325 330 335  
 Lys Asp Phe Val Ser Arg Leu Glu Gly Val Asp Leu Pro Gly Glu Ser  
 340 345 350  
 Pro Leu Pro Arg Thr Leu Asp Ser Ser Ser Gln Phe Ile Glu Ala Phe  
 355 360 365  
 Ser Arg Ala Leu Ala Asn Asp Leu Asn Val Ser Thr Gly Phe Ala Ser  
 370 375 380

Leu	Phe	Asp	Phe	Val	His	Glu	Ile	Asn	Thr	Leu	Ile	Asp	Gln	Gly	His
385					390					395					400
Phe	Ser	Lys	Ala	Asp	Ser	Leu	Tyr	Ile	Leu	Asp	Thr	Leu	Lys	Lys	Val
				405					410					415	
Asp	Thr	Val	Leu	Gly	Val	Leu	Pro	Leu	Thr	Thr	Ser	Val	Cys	Ile	Pro
		420						425					430		
Glu	Thr	Val	Met	Gln	Leu	Val	Ala	Glu	Arg	Glu	Glu	Ala	Arg	Lys	Thr
		435					440					445			
Lys	Asn	Trp	Ala	Met	Ala	Asp	Thr	Leu	Arg	Asp	Glu	Ile	Leu	Ala	Ala
	450					455					460				
Gly	Phe	Leu	Val	Glu	Asp	Ser	Lys	Ser	Gly	Pro	Lys	Val	Lys	Pro	Leu
465					470					475					480

<210> 935

<211> 349

<212> PRT

<213> Chlamydia pneumoniae

<400> 935

Pro	Val	Ile	Leu	Gln	Asn	Ile	Lys	Arg	Cys	Ser	Leu	Lys	Gln	Leu
1			5				10						15	
Lys	Val	Leu	Ala	Thr	Leu	Leu	Leu	Ser	Leu	Ser	Leu	Pro	Thr	Leu
		20					25					30		Glu
Ala	Ala	Glu	Asn	Arg	Asp	Ser	Asp	Ser	Ile	Val	Trp	His	Leu	Asp
	35					40						45		Tyr
Gln	Glu	Ala	Leu	Gln	Lys	Ser	Lys	Glu	Ala	Glu	Leu	Pro	Leu	Leu
	50					55					60			Val
Ile	Phe	Ser	Gly	Ser	Asp	Trp	Asn	Gly	Pro	Cys	Met	Lys	Ile	Arg
65				70					75					80
Glu	Val	Leu	Glu	Ser	Pro	Glu	Phe	Ile	Lys	Arg	Val	Gln	Gly	Lys
			85					90					95	Phe
Val	Cys	Val	Glu	Val	Glu	Tyr	Leu	Lys	His	Arg	Pro	Gln	Val	Glu
		100					105					110		Asn
Ile	Arg	Gln	Gln	Asn	Leu	Ala	Leu	Lys	Ser	Lys	Phe	Lys	Ile	Asn
	115					120						125		Glu
Leu	Pro	Cys	Met	Ile	Leu	Leu	Ser	His	Glu	Glu	Arg	Glu	Ile	Tyr
	130					135					140			Arg
Ile	Gly	Ser	Phe	Gly	Asn	Glu	Thr	Gly	Ser	Asn	Leu	Gly	Asp	Ser
145					150					155				Leu
Cys	His	Ile	Val	Glu	Ser	Asp	Ser	Leu	Leu	Arg	Arg	Ala	Phe	Pro
			165					170					175	Met
Met	Thr	Ser	Leu	Ser	Leu	Ser	Glu	Leu	Gln	Arg	Tyr	Tyr	Arg	Leu
		180					185						190	Ala
Glu	Glu	Leu	Ser	His	Lys	Glu	Phe	Leu	Lys	His	Ala	Leu	Glu	Leu
	195					200						205		Gly
Val	Arg	Ser	Asp	Asp	Tyr	Phe	Leu	Ser	Glu	Lys	Phe	Arg	Leu	Leu
	210					215				220				
Val	Glu	Val	Gly	Lys	Met	Asp	Ser	Glu	Glu	Cys	Gln	Arg	Ile	Lys
225					230					235				Lys
Arg	Leu	Leu	Asn	Lys	Asp	Pro	Lys	Asn	Glu	Lys	Gln	Thr	His	Phe
			245						250					Thr
Val	Ala	Leu	Ile	Glu	Phe	Gln	Glu	Leu	Ala	Lys	Arg	Ser	Arg	Ala
		260					265						270	Gly
Val	Arg	Gln	Asp	Ala	Ser	Gln	Val	Ile	Ala	Pro	Leu	Glu	Ser	Tyr
		275					280					285		Ile
Ser	Gln	Phe	Gly	Gln	Gln	Asp	Lys	Asp	Asn	Leu	Trp	Arg	Val	Glu
	290					295					300			Met
Met	Ile	Ala	Gln	Phe	Tyr	Leu	Asp	Ser	Asp	Gln	Trp	His	His	Ala
305					310					315				Leu
Gln	His	Ala	Glu	Val	Ala	Phe	Glu	Ala	Ala	Pro	Asn	Glu	Val	Arg
			325						330					Ser

His Ile Ser Arg Ser Leu Glu Tyr Ile Arg His Gln Ser  
 340 345

<210> 936  
 <211> 141  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 936  
 Tyr Phe Val His Pro Leu Thr Leu Pro Lys Gln Ser Arg Val Leu Lys  
 1 5 10 15  
 Arg Lys Gln Phe Leu Tyr Ile Thr Arg Ser Gly Phe Cys Cys Arg Gly  
 20 25 30  
 Ser Gln Ala Thr Phe Tyr Val Val Pro Ser Arg His Pro Gly Thr Cys  
 35 40 45  
 Arg Met Gly Ile Thr Val Ser Lys Lys Phe Gly Lys Ala His Glu Arg  
 50 55 60  
 Asn Ser Phe Lys Arg Val Val Arg Glu Val Phe Arg His Val Arg His  
 65 70 75 80  
 Gln Leu Pro Asn Cys Gln Ile Val Val Phe Pro Lys Gly His Lys Gln  
 85 90 95  
 Arg Pro Val Phe Ser Lys Leu Leu Gln Asp Phe Ile Asn Gln Ile Pro  
 100 105 110  
 Glu Gly Leu His Arg Leu Gly Lys Thr Lys Ala Thr Thr Gly Gly Glu  
 115 120 125  
 Cys Thr Pro Lys Ser Glu Lys Cys Val Thr Ala Pro Arg  
 130 135 140

<210> 937  
 <211> 48  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 937  
 Glu Asp Thr Val Lys Arg Thr Tyr Gln Pro Ser Lys Arg Lys Arg Arg  
 1 5 10 15  
 Asn Ser Val Gly Phe Arg Thr Arg Met Ala Thr Arg Asn Gly Arg Lys  
 20 25 30  
 Leu Leu Asn Arg Arg Arg Arg His Gly Arg His Ser Leu Val Asp Leu  
 35 40 45

<210> 938  
 <211> 47  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 938  
 Tyr Leu Met Lys Val Ser Ser Ser Val Lys Ala Asp Pro Ser Lys Gly  
 1 5 10 15  
 Asp Lys Leu Val Arg Arg Lys Gly Arg Leu Tyr Val Ile Asn Lys Lys  
 20 25 30  
 Asp Pro Asn Arg Lys Gln Arg Gln Ala Gly Pro Ala Arg Lys Lys  
 35 40 45

<210> 939  
 <211> 104  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 939  
Val Lys Arg Met Ala Lys Lys Ser Ser Val Ala Arg Glu Ala Lys Arg  
1 5 10 15  
Arg Arg Leu Val Glu Ala Asn Phe Lys Lys Arg Ser Asp Leu Arg Lys  
20 25 30  
Ile Val Lys Ser Leu Ser Val Ser Glu Glu Glu Lys Glu Asn Ala Arg  
35 40 45  
Ile Ser Leu Asn Lys Met Lys Arg Asp Thr Ser Pro Thr Arg Leu His  
50 55 60  
Asn Arg Cys Leu Leu Thr Gly Arg Pro Arg Gly Tyr Leu Arg Lys Phe  
65 70 75 80  
Ala Ile Ser Arg Ile Cys Phe Arg Gln Met Ala Ser Met Gly Glu Ile  
85 90 95  
Pro Gly Val Ile Lys Ala Ser Trp  
100

<210> 940  
<211> 169  
<212> PRT  
<213> Chlamydia pneumoniae

<400> 940  
Gln Thr Ile Asn Leu Ser Gly Thr Leu Arg Thr Met Leu Pro Ile Ser  
1 5 10 15  
Ile Leu Leu Phe Tyr Val Ile Leu Gly Cys Leu Ser Ala Tyr Ile Ala  
20 25 30  
Asp Lys Lys Lys Arg Asn Val Ile Gly Trp Phe Phe Ala Gly Ala Phe  
35 40 45  
Phe Gly Phe Ile Gly Leu Val Val Leu Leu Leu Leu Pro Ser Arg Arg  
50 55 60  
Asn Ala Leu Glu Lys Pro Gln Asn Asp Pro Phe Asp Asn Ser Asp Leu  
65 70 75 80  
Phe Asp Asp Leu Lys Lys Ser Leu Ala Gly Asn Asp Glu Ile Pro Ser  
85 90 95  
Ser Gly Asp Leu Gln Glu Ile Val Ile Asp Thr Glu Lys Trp Phe Tyr  
100 105 110  
Leu Asn Lys Asp Arg Glu Asn Val Gly Pro Ile Ser Phe Glu Glu Leu  
115 120 125  
Val Val Leu Leu Lys Gly Lys Thr Tyr Pro Glu Glu Ile Trp Val Trp  
130 135 140  
Lys Lys Gly Met Lys Asp Trp Gln Arg Val Lys Asp Val Pro Ser Leu  
145 150 155 160  
Gln Gln Ala Leu Lys Glu Ala Ser Lys  
165

<210> 941  
<211> 189  
<212> PRT  
<213> Chlamydia pneumoniae

<400> 941  
His Ile Asn Arg Trp Thr Ile Arg Leu Ser Leu Thr Leu Ile Ile Ser  
1 5 10 15  
Thr Val Leu Tyr Phe Phe Ser Glu Glu Ile Glu Leu Ile Gly Gly Gly  
20 25 30  
Lys Met Glu Lys Gln Asn Leu Lys Leu Asp Val Lys Glu Ile Glu Phe  
35 40 45  
Pro Glu Thr Val Phe Ser Arg Asp Ile Glu Thr Arg Val Ile Gln Val  
50 55 60  
Ile Ile Leu His Cys Leu Ala Lys Ile Asn Gly Val Ser Leu Leu Gly  
65 70 75 80

Gly	Asn	Leu	Ile	Asp	Ala	Leu	Phe	Gly	Arg	Asp	Ile	Glu	Arg	Met	Lys
				85					90					95	
Gly	Ile	Tyr	Val	Glu	Gln	Asp	Ser	Lys	Asn	His	Leu	Val	Lys	Val	Arg
			100					105					110		
Val	Glu	Val	Asn	Val	Asp	Tyr	Gly	Val	Ser	Ile	Pro	Glu	Lys	Thr	Glu
		115					120					125			
Glu	Ile	Gln	Gly	Cys	Ile	Val	Ser	Glu	Ile	Ser	Glu	Tyr	Thr	Gly	Leu
		130				135					140				
His	Val	Ala	Ala	Val	His	Val	Ile	Ile	Lys	Gly	Leu	Thr	Gln	Pro	Lys
145					150					155					160
Asp	Arg	Ile	Asp	Glu	Glu	Ile	Glu	Glu	Glu	Val	Ser	Val	Gln	Asp	Leu
			165					170						175	
Pro	Ser	Pro	Glu	Asp	Phe	Leu	Leu	Glu	Asn	Ser	Glu	Gly			
			180					185							

<210> 942

<211> 612

<212> PRT

<213> Chlamydia pneumoniae

<400> 942

Asp	Ala	Thr	Thr	Asp	Ile	Ile	Leu	Val	Met	Arg	Ile	Glu	Asp	Phe	Ser
1				5					10					15	
Leu	Lys	Leu	Ile	Pro	Ser	Ser	Pro	Gly	Val	Tyr	Leu	Met	Lys	Asp	Val
			20					25					30		
His	Asp	Gln	Val	Leu	Tyr	Ile	Gly	Lys	Ala	Lys	Asn	Leu	Lys	Asn	Arg
		35					40					45			
Leu	Ala	Ser	Tyr	Phe	His	Glu	Lys	Gly	Asp	Ser	Arg	Glu	Arg	Ile	Pro
	50					55					60				
Phe	Leu	Met	Lys	Lys	Thr	Ala	Ser	Ile	Glu	Thr	Ile	Val	Val	Ser	Asn
65					70				75						80
Glu	Thr	Glu	Ala	Leu	Leu	Leu	Glu	Asn	Asn	Leu	Ile	Lys	Gln	His	His
			85					90					95		
Pro	Lys	Tyr	Asn	Val	Leu	Leu	Lys	Asp	Asp	Lys	Thr	Phe	Phe	Cys	Leu
			100					105					110		
Ala	Ile	Ser	Leu	Ser	His	Ser	Trp	Pro	Lys	Val	Glu	Ala	Ile	Arg	Thr
		115					120					125			
Lys	Ala	Ile	Thr	Ser	Ser	Gln	Arg	Gln	Leu	Ile	Phe	Gly	Pro	Tyr	Val
		130				135					140				
Ser	Ala	Glu	Ala	Cys	His	Thr	Leu	Leu	Glu	Val	Ile	Ser	Gln	Trp	Phe
145					150				155						160
Pro	Leu	Arg	Thr	Cys	Ser	Asp	Arg	Glu	Phe	Ala	Leu	Arg	Lys	Arg	Pro
			165					170						175	
Cys	Ile	Leu	Tyr	Asp	Met	Lys	Arg	Cys	Leu	Ala	Pro	Cys	Val	Gly	Tyr
		180						185					190		
Cys	Thr	Pro	Glu	Glu	Tyr	Gln	Gly	Thr	Leu	Asp	Lys	Ala	Ile	Leu	Phe
		195					200					205			
Leu	Lys	Gly	Lys	Ile	Glu	Glu	Val	Val	Lys	Asp	Leu	Glu	Lys	Val	Ile
		210				215					220				
Gln	Lys	Ala	Ser	Asp	Asn	Leu	Glu	Phe	Glu	Gln	Ala	Ala	Asn	Tyr	Tyr
225					230				235						240
Arg	Thr	Leu	Ser	Leu	Ile	Lys	Gln	Ala	Met	Ala	Lys	Gln	Gln	Val	Glu
			245					250						255	
Lys	Phe	His	Phe	Gln	Asn	Ile	Asp	Ala	Leu	Gly	Leu	Tyr	Arg	His	Lys
		260						265					270		
Gln	Arg	Thr	Ile	Leu	Thr	Leu	Leu	Thr	Val	Arg	Ser	Gly	Lys	Leu	Leu
		275				280						285			
Gly	Ala	Arg	His	Phe	Ser	Phe	Phe	Glu	Asn	Ala	Gln	Glu	Asp	Gln	Asp
		290				295					300				
Leu	Leu	Ser	Ser	Phe	Ile	Leu	Gln	Tyr	Tyr	Val	Ser	Gln	Pro	Tyr	Ile
305					310					315					320

Pro Lys Glu Ile Leu Thr Pro Leu Pro Leu Glu Phe Pro Thr Leu Ser  
 325 330 335  
 Tyr Val Leu Asn Ala Glu Ser Pro Pro Arg Leu Arg Ser Pro Lys Thr  
 340 345 350  
 Gly Tyr Gly Lys Glu Leu Leu Asp Leu Ala Tyr Arg Asn Ala Lys Ala  
 355 360 365  
 Tyr Ala Ala Thr Thr Leu Pro Ser Ser Thr Leu Pro Tyr Gln Asp Phe  
 370 375 380  
 Gln Asn Ile Leu Arg Met Ser Gln Tyr Pro Tyr Arg Ile Glu Cys Tyr  
 385 390 395 400  
 Asp Asn Ala His Met Gln Gly Ala His Ala Thr Gly Val Tyr Ile Val  
 405 410 415  
 Phe Glu Asn Asn Gly Phe Asp Pro Lys Gln Tyr Arg Thr Phe Ser Ile  
 420 425 430  
 Asp Ser Glu Lys Thr Gln Asn Asp Leu Ala Leu Leu Glu Glu Val Leu  
 435 440 445  
 Leu Arg Arg Phe His Ser Leu Thr Thr Ala Leu Pro Asp Met Ile Val  
 450 455 460  
 Val Asp Gly Gly Lys Thr His Tyr Asn Lys Thr Lys Lys Ile Ile Gln  
 465 470 475 480  
 Thr Leu Asn Leu Thr Gly Ile Gln Val Val Thr Ile Ala Lys Glu Lys  
 485 490 495  
 Ser Asn His Ser Arg Gly Leu Asn Lys Glu Lys Ile Phe Cys Glu Thr  
 500 505 510  
 Phe Pro Glu Gly Phe Ser Leu Pro Pro Thr Ser Asn Leu Leu Gln Phe  
 515 520 525  
 Phe Gln Ile Leu Arg Asp Glu Ala His Arg Phe Ala Ile Ser Lys His  
 530 535 540  
 Arg Lys Lys Arg Gly Lys Ala Leu Phe Glu Gln Glu Lys Ile Pro Gly  
 545 550 555 560  
 Ile Gly Glu Val Lys Arg Lys Arg Leu Leu Gln Lys Phe Lys Ser Trp  
 565 570 575  
 Lys Gln Val Met Leu Ser Ser Gln Glu Glu Leu Glu Ala Ile Pro Gly  
 580 585 590  
 Leu Thr Lys Lys Asp Ile Ala Val Leu Leu Ala Arg Gln Lys Asp Phe  
 595 600 605  
 Asn Lys Ser Asp  
 610

<210> 943

<211> 829

<212> PRT

<213> *Chlamydia pneumoniae*

<400> 943

Val Met Thr Glu Lys Lys Pro Thr Pro Met Met Glu Gln Trp His Gln  
 1 5 10 15  
 Cys Lys Glu Lys Ala Gly Asp Ser Val Leu Leu Phe Arg Met Gly Asp  
 20 25 30  
 Phe Tyr Glu Ala Phe Tyr Asp Asp Ala Val Leu Leu Ser Gln His Leu  
 35 40 45  
 Glu Leu Thr Leu Thr Gln Arg Gln Gly Ile Pro Met Ser Gly Ile Pro  
 50 55 60  
 Val Ser Thr Val Asp Thr Tyr Val Asp Arg Leu Ile Gly Lys Gly Phe  
 65 70 75 80  
 Lys Val Ala Val Ala Glu Gln Phe Gly Glu Pro Ala Lys Glu Lys Glu  
 85 90 95  
 Ser Lys Lys Ile Gly Pro Met Ala Arg Asp Ile Gln Arg Phe Val Thr  
 100 105 110  
 Pro Gly Thr Leu Leu Ser Ser Thr Leu Leu Gln Glu Lys Phe Asn Asn  
 115 120 125



Tyr	Ile	Val	Ala	Ile	Asn	Arg	Ile	Gly	Ser	Leu	Phe	Gly	Phe	Ala	Cys	
	130					135					140					
Leu	Asp	Leu	Ser	Thr	Gly	Ser	Phe	Phe	Ile	Glu	Glu	Cys	Glu	Asn	Thr	
145					150					155					160	
Lys	Glu	Leu	Val	Asp	Glu	Ile	Cys	Arg	Leu	Ala	Pro	Ser	Glu	Val	Leu	
				165					170					175		
Ser	Cys	Asn	Lys	Phe	Tyr	Asn	Lys	Glu	Thr	Ala	Ile	Val	Met	Gln	Leu	
		180						185					190			
Gln	Gln	His	Leu	Lys	Leu	Thr	Leu	Ser	Thr	Tyr	Ala	Asp	Trp	Ala	Phe	
		195					200					205				
Glu	His	Lys	Phe	Ala	Ser	Gln	Lys	Leu	Thr	Thr	His	Phe	Gln	Val	Ala	
	210					215					220					
Ser	Leu	Asp	Gly	Phe	Gly	Leu	Lys	Gly	Leu	Val	Pro	Ala	Ile	Asn	Ala	
225					230					235					240	
Ala	Gly	Gly	Leu	Leu	Ser	Tyr	Ile	Gln	Asp	Lys	Leu	Leu	Leu	Pro	Thr	
				245					250					255		
Lys	His	Ile	Ala	Ile	Pro	Gln	Thr	Arg	Gly	Lys	Gln	Gln	Lys	Leu	Leu	
		260						265					270			
Ile	Asp	Thr	Ala	Ser	Gln	Val	Asn	Leu	Glu	Leu	Leu	Ala	Pro	Leu	Asn	
	275						280					285				
Asp	Pro	Gln	Gly	Lys	Asn	Ser	Leu	Leu	Arg	Ile	Met	Asp	His	Thr	Ser	
	290					295					300					
Thr	Pro	Met	Gly	Gly	Arg	Leu	Leu	Arg	Gln	Ile	Leu	Ile	Ser	Pro	Phe	
305					310					315					320	
Tyr	Asn	Pro	Lys	Glu	Ile	Leu	Val	Arg	Gln	Asp	Ala	Val	Glu	Phe	Phe	
				325					330					335		
Leu	Arg	Gln	Val	Thr	Leu	Arg	Lys	Asn	Ile	Lys	Thr	Tyr	Leu	Cys	Gln	
			340					345					350			
Val	Arg	Asp	Ile	Glu	Arg	Leu	Met	Thr	Lys	Val	Thr	Thr	Gly	Leu	Ala	
		355					360					365				
Gly	Pro	Arg	Asp	Ile	Gly	Thr	Leu	Arg	Asp	Ser	Phe	Ser	Ala	Gly	Ala	
	370					375					380					
Gln	Ile	Tyr	Glu	Gln	Leu	Ala	Ser	Ala	Thr	Leu	Pro	Glu	Phe	Phe	Ile	
385					390					395					400	
Asp	Lys	Cys	Ser	Leu	Asp	Thr	Lys	Leu	Ala	Ser	Leu	Ile	Ala	Leu	Leu	
				405					410					415		
Ser	Lys	Ser	Leu	Asn	Gly	Asp	Leu	Pro	Leu	Arg	Val	Ser	Asp	Gly	Asn	
			420					425					430			
Ile	Phe	Val	Asp	Glu	Phe	His	Asn	Asp	Leu	Lys	Arg	Leu	Arg	His	Asn	
		435					440					445				
Gln	Glu	His	Ser	Gln	Glu	Trp	Ile	Trp	Glu	Tyr	Gln	Glu	Arg	Ile	Arg	
		450				455					460					
Lys	Glu	Thr	Gly	Ile	Lys	Lys	Leu	Lys	Ile	Cys	Phe	Ala	Gln	Ala	Leu	
465					470					475					480	
Gly	Tyr	Tyr	Ile	Glu	Val	Ser	Ser	Glu	Phe	Ala	Pro	Gln	Leu	Pro	Lys	
				485					490					495		
Asp	Phe	Ile	Arg	Arg	Gln	Ser	Arg	Leu	His	Ala	Glu	Arg	Phe	Thr	Thr	
			500					505					510			
Ile	Glu	Leu	Gln	Gln	Phe	Gln	Asp	Asp	Met	Ser	Asn	Ile	Ser	Glu	Lys	
		515					520					525				
Leu	Gln	Thr	Leu	Glu	Thr	Gln	Phe	Phe	Lys	Asp	Leu	Cys	Ser	His	Ile	
		530				535					540					
Leu	Gln	Leu	Arg	Thr	Glu	Ile	Leu	Ala	Leu	Ser	Gln	Ser	Leu	Ala	Asp	
545					550					555					560	
Leu	Asp	Tyr	Ile	Ile	Ser	Leu	Ala	Asp	Leu	Ala	His	Ala	Gln	Gly	Tyr	
				565					570					575		
Cys	Arg	Pro	His	Val	Asp	Met	Ser	Asp	Thr	Leu	Cys	Ile	Tyr	Arg	Gly	
			580					585					590			
Cys	His	Pro	Val	Ala	Lys	Thr	Leu	Val	Asp	Thr	Gly	Lys	Phe	Ile	Pro	
		595					600					605				

Asn	Asp	Thr	Glu	Met	Arg	Gly	Ser	Gln	Thr	Arg	Met	Ile	Leu	Leu	Thr
610						615					620				
Gly	Pro	Asn	Met	Ala	Gly	Lys	Ser	Thr	Tyr	Ile	Arg	Gln	Ile	Ala	Leu
625					630					635					640
Leu	Val	Ile	Met	Ala	Gln	Met	Gly	Ser	Tyr	Ile	Pro	Ala	Lys	Ser	Ala
				645					650					655	
His	Ile	Gly	Val	Ile	Asp	Lys	Ile	Phe	Thr	Arg	Ile	Gly	Ala	Gly	Asp
			660					665					670		
Asn	Leu	Ser	Lys	Gly	Met	Ser	Thr	Phe	Met	Val	Glu	Met	Ala	Glu	Thr
		675					680					685			
Ala	Asn	Ile	Leu	His	Asn	Ala	Thr	Asp	Arg	Ser	Leu	Val	Ile	Leu	Asp
690					695						700				
Glu	Val	Gly	Arg	Gly	Thr	Ser	Thr	Tyr	Asp	Gly	Leu	Ala	Ile	Ala	Gln
705					710					715					720
Ala	Val	Val	Glu	Tyr	Leu	Leu	Phe	Thr	Asp	Lys	Lys	Lys	Ala	Lys	Thr
			725					730						735	
Leu	Phe	Ala	Thr	His	Tyr	Lys	Glu	Leu	Thr	Thr	Leu	Glu	Asp	His	Cys
			740					745					750		
Pro	His	Val	Glu	Asn	Phe	His	Ala	Gly	Val	Lys	Asp	Lys	Ala	Gly	Gln
		755					760					765			
Pro	Val	Phe	Leu	Tyr	Glu	Ile	Leu	Lys	Gly	His	Ser	Gln	Lys	Ser	Phe
		770				775						780			
Gly	Ile	His	Val	Ala	Arg	Leu	Ala	Gly	Phe	Pro	Leu	Cys	Val	Val	Ser
785					790					795					800
Arg	Ala	Gln	Gln	Ile	Leu	Arg	Gln	Leu	Glu	Gly	Pro	Glu	Ser	Ile	Thr
			805					810						815	
Arg	Pro	Ala	Gln	Asp	Lys	Met	Gln	Gln	Leu	Thr	Leu	Phe			
			820					825							

<210> 944  
 <211> 600  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 944

Asn	Cys	Ser	Ile	Thr	Lys	Leu	Arg	Thr	Ala	Met	Tyr	Thr	Glu	Glu	Ser
1				5					10					15	
Leu	Asp	Asn	Leu	Arg	His	Ser	Ile	Asp	Ile	Val	Asp	Val	Leu	Ser	Glu
		20						25					30		
His	Ile	His	Leu	Lys	Arg	Ser	Gly	Ala	Thr	Tyr	Lys	Ala	Cys	Cys	Pro
		35					40					45			
Phe	His	Thr	Glu	Lys	Thr	Pro	Ser	Phe	Ile	Val	Asn	Pro	Ala	Gly	Ala
	50					55					60				
His	Tyr	His	Cys	Phe	Gly	Cys	Gly	Ala	His	Gly	Asp	Ala	Ile	Gly	Phe
65					70					75					80
Leu	Met	Gln	His	Leu	Gly	Tyr	Ser	Phe	Thr	Glu	Ala	Ile	Leu	Val	Leu
			85						90					95	
Ser	Lys	Lys	Phe	Gln	Val	Asp	Leu	Val	Leu	Gln	Pro	Lys	Asp	Ser	Gly
			100					105					110		
Tyr	Thr	Pro	Pro	Gln	Gly	Leu	Lys	Glu	Glu	Leu	Arg	His	Ile	Asn	Ser
		115					120					125			
Glu	Ala	Glu	Thr	Phe	Phe	Arg	Tyr	Cys	Leu	Tyr	His	Leu	Pro	Glu	Ala
	130					135					140				
Arg	His	Ala	Leu	Gln	Tyr	Leu	Tyr	His	Arg	Gly	Phe	Ser	Pro	Asp	Thr
145					150					155					160
Ile	Asp	Arg	Phe	His	Leu	Gly	Tyr	Gly	Pro	Glu	Gln	Ser	Leu	Phe	Leu
			165						170					175	
Gln	Ala	Met	Glu	Glu	Arg	Lys	Ile	Ser	Gln	Glu	Gln	Leu	His	Thr	Ala
		180						185					190		
Gly	Phe	Phe	Gly	Asn	Lys	Trp	Phe	Leu	Phe	Ala	Arg	Arg	Ile	Ile	Phe
		195						200					205		

Pro Val His Asp Ala Leu Gly His Thr Ile Gly Phe Ser Ala Arg Lys  
 210 215 220  
 Phe Leu Glu Asn Ser Gln Gly Gly Lys Tyr Val Asn Thr Pro Glu Thr  
 225 230 235 240  
 Pro Ile Phe Lys Lys Ser Arg Ile Leu Phe Gly Leu Asn Phe Ser Arg  
 245 250 255  
 Arg Arg Ile Ala Lys Glu Lys Lys Val Ile Leu Val Glu Gly Gln Ala  
 260 265 270  
 Asp Cys Leu Gln Met Ile Asp Ser Gly Phe Asn Cys Thr Val Ala Ala  
 275 280 285  
 Gln Gly Thr Ala Phe Thr Glu Glu His Val Lys Glu Leu Ser Lys Leu  
 290 295 300  
 Gly Val Leu Lys Val Phe Leu Leu Phe Asp Ser Asp Glu Ala Gly Asn  
 305 310 315 320  
 Lys Ala Ala Leu Arg Val Gly Asp Leu Cys Gln Thr Ala Gln Met Ser  
 325 330 335  
 Val Phe Val Cys Lys Leu Pro Gln Gly His Asp Pro Asp Ser Phe Leu  
 340 345 350  
 Met Gln Arg Gly Ser Ser Gly Leu Ile Ala Leu Leu Glu Gln Ser Gln  
 355 360 365  
 Asp Tyr Leu Thr Phe Leu Ile Ser Glu Lys Met Ser Ser Tyr Pro Lys  
 370 375 380  
 Phe Gly Pro Arg Glu Lys Ala Leu Leu Val Glu Glu Ala Ile Arg Gln  
 385 390 395 400  
 Ile Lys His Trp Gly Ser Pro Ile Leu Val Tyr Glu His Leu Lys Gln  
 405 410 415  
 Leu Ala Ser Leu Met Met Val Pro Glu Asp Met Val Leu Ser Leu Ala  
 420 425 430  
 Asn Pro Gln Val Thr Ala Glu Pro Gln Asn Ile Pro Ile Lys Gln Lys  
 435 440 445  
 Val Pro Lys Ile His Pro His Ile Val Met Glu Thr Asp Ile Leu Arg  
 450 455 460  
 Cys Met Leu Phe Cys Gly Ser Asn Thr Lys Ile Leu Tyr Thr Ala Gln  
 465 470 475 480  
 Phe Tyr Phe Val Pro Glu Asp Phe Lys His Pro Glu Cys Arg Lys Leu  
 485 490 495  
 Phe Ala Phe Met Ile Ser Tyr Tyr Glu Lys Tyr Arg Lys Asn Val Pro  
 500 505 510  
 Phe Asp Glu Ala Cys Gln Val Leu Ser Asp Ser Gln Ile Leu Gln Leu  
 515 520 525  
 Leu Thr Lys Arg Arg Leu Asn Thr Glu Ala Leu Asp Thr Ile Phe Val  
 530 535 540  
 Gln Ser Leu Gln Lys Met Ala Asp Arg Arg Trp Arg Glu Gln Cys Lys  
 545 550 555 560  
 Pro Leu Ser Leu Asn Gln Asn Ile Gln Asp Lys Lys Leu Glu Ile Leu  
 565 570 575  
 Glu Asp Tyr Val Gln Leu Arg Lys Asp Arg Thr Ile Ile Thr Leu Leu  
 580 585 590  
 Asp Pro Glu Ser Glu Leu Ile Pro  
 595 600

<210> 945

<211> 89

<212> PRT

<213> Chlamydia pneumoniae

<400> 945

Phe Phe Met Lys Ser Phe Lys Phe Leu Leu Pro Phe Leu Ser Val Ile  
 1 5 10 15  
 Leu Cys Cys Gly Asn Leu Leu Ser Ser Pro Arg Ser Arg Ala Ile Ser  
 20 25 30

Val Thr Glu Ser Ile Gly Met Ser Ala Val Lys Thr Leu Val Leu Ser  
           35                          40                          45  
 Glu Lys Ala His Glu Phe Leu Glu Gly Ile Gly Tyr Gly Val Gly Ala  
       50                          55                          60  
 Ser Ser Ile Leu Arg Asp Trp Gln Thr Gln Gln Trp Leu Glu Ile Glu  
   65                          70                          75                          80  
 Ser Leu Leu Ala Gln Asn Glu Val Met  
                           85

<210> 946  
 <211> 165  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 946  
 Ile Lys Ile Met Met His Arg Tyr Phe Ile Pro Leu Leu Ala Leu Leu  
   1                          5                          10                          15  
 Ile Phe Ser Pro Ser Leu Val Arg Ala Glu Leu Gln Pro Ser Glu Asn  
                           20                          25                          30  
 Arg Lys Gly Gly Trp Pro Thr Gln Leu Ser Cys Ala Glu Gly Ser Gln  
       35                          40                          45  
 Leu Phe Cys Lys Phe Glu Ala Ala Tyr Asn Asn Ala Ile Glu Glu Gly  
   50                          55                          60  
 Lys Pro Gly Ile Leu Val Phe Phe Ser Glu Arg Pro Thr Pro Glu Phe  
   65                          70                          75                          80  
 Ala Asp Leu Thr Asn Gly Ser Phe Ser Leu Ser Thr Pro Ile Ala Lys  
                           85                          90                          95  
 Gly Phe Asn Val Val Val Leu Cys Pro Gly Leu Ile Ser Pro Leu Asp  
                           100                          105                          110  
 Phe Phe His Lys Met Asp Pro Val Ile Leu Tyr Met Gly Ser Phe Leu  
       115                          120                          125  
 Glu Met Phe Pro Glu Val Glu Ala Val Ser Gly Pro Arg Leu Cys Tyr  
       130                          135                          140  
 Ile Leu Ile Asp Glu Gln Gly Gly Ala Gln Cys Gln Ala Val Leu Pro  
   145                          150                          155                          160  
 Leu Glu Thr Lys Asn  
                           165

<210> 947  
 <211> 220  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 947  
 Ser Ile Phe Lys Asn Lys Ile Leu Pro Ser Tyr Phe Gly His Asn Phe  
   1                          5                          10                          15  
 Asp Gln Leu Arg Arg His Tyr Met Arg Ile Ala Leu Ser Leu Leu Ser  
                           20                          25                          30  
 Leu Leu Met Ile Phe Pro Ile Phe Gly Glu Glu Ser Arg Pro Gly Ser  
       35                          40                          45  
 Glu Asp Gly Asn Ser Asn Thr Gln Glu Ile Val Gly Ser Gln Asp Thr  
   50                          55                          60  
 Gln Val Cys Leu Tyr His Ser Tyr Glu Gln Gly Leu Gln Ala Ser Arg  
   65                          70                          75                          80  
 Ile Glu Gly Lys Pro Leu Val Ile Val Val Leu Cys Asn Ser Gly Asp  
                           85                          90                          95  
 Asp Gly Gln Ala Cys Thr Ile Gly Leu Ser Glu Thr Cys Glu Glu Val  
                           100                          105                          110  
 Leu Ser Val Leu Ser Gly Ser Ile Phe Ser Glu Leu Ala Asn Phe Val  
       115                          120                          125

Val	Leu	Val	Pro	Ser	Gly	Val	Asn	Pro	Leu	Ile	Tyr	Pro	Pro	Ile	Glu
130						135					140				
Asp	Pro	Ile	Leu	Ala	Glu	Ile	Val	Lys	Phe	Lys	Glu	Leu	Phe	Lys	Asp
145					150					155					160
Glu	Ser	Phe	Pro	Thr	Gly	Leu	Ser	Ile	Ile	Val	Val	Gly	Val	Thr	Pro
				165					170					175	
Glu	Gly	Pro	Gly	Asp	Ile	Ile	Glu	Val	Ser	Pro	Val	Ser	Leu	Thr	Val
			180					185					190		
Glu	Glu	Glu	Glu	Thr	Leu	Pro	Ser	Glu	Gln	Thr	Thr	Glu	Val	Glu	Ser
		195					200					205			
Thr	Ser	Glu	Leu	Gln	Ser	Glu	Asp	Pro	Ala	Ile	Ala				
210						215					220				

<210> 948

<211> 1024

<212> PRT

<213> Chlamydia pneumoniae

<400> 948

Gly	Glu	Cys	Gln	Lys	Lys	Lys	Cys	Tyr	Thr	Leu	Glu	Ser	Phe	Val	Ser
1				5					10					15	
Glu	His	Pro	Leu	Thr	Leu	Gln	Ser	Met	Ile	Ala	Thr	Ile	Leu	Arg	Phe
			20					25					30		
Trp	Ser	Glu	Gln	Gly	Cys	Val	Ile	His	Gln	Gly	Tyr	Asp	Leu	Glu	Val
		35				40						45			
Gly	Ala	Gly	Thr	Phe	Asn	Pro	Ala	Thr	Phe	Leu	Arg	Ala	Leu	Gly	Pro
	50					55					60				
Glu	Pro	Tyr	Lys	Ala	Ala	Tyr	Val	Glu	Pro	Ser	Arg	Arg	Pro	Gln	Asp
65					70					75					80
Gly	Arg	Tyr	Gly	Val	His	Pro	Asn	Arg	Leu	Gln	Asn	Tyr	His	Gln	Leu
				85					90					95	
Gln	Val	Ile	Leu	Lys	Pro	Val	Pro	Glu	Asn	Phe	Leu	Ser	Leu	Tyr	Thr
			100					105					110		
Glu	Ser	Leu	Arg	Ala	Ile	Gly	Leu	Asp	Leu	Arg	Asp	His	Asp	Ile	Arg
		115					120					125			
Phe	Ile	His	Asp	Asp	Trp	Glu	Asn	Pro	Thr	Ile	Gly	Ala	Trp	Gly	Leu
		130				135					140				
Gly	Trp	Glu	Val	Trp	Leu	Asn	Gly	Met	Glu	Ile	Thr	Gln	Leu	Thr	Tyr
145					150					155					160
Phe	Gln	Ala	Ile	Gly	Ser	Lys	Pro	Leu	Asp	Thr	Ile	Ser	Gly	Glu	Ile
				165					170					175	
Thr	Tyr	Gly	Ile	Glu	Arg	Ile	Ala	Met	Tyr	Leu	Gln	Lys	Lys	Ile	Ser
			180					185						190	
Ile	Tyr	Asp	Val	Leu	Trp	Asn	Asp	Thr	Leu	Thr	Tyr	Gly	Gln	Ile	Thr
		195					200					205			
Gln	Ala	Ser	Glu	Lys	Ala	Trp	Ser	Glu	Tyr	Asn	Phe	Asp	Tyr	Ala	Asn
	210					215					220				
Thr	Glu	Met	Trp	Phe	Lys	His	Phe	Glu	Asp	Phe	Ala	Glu	Glu	Ala	Leu
225					230					235					240
Arg	Thr	Leu	Lys	Asn	Gly	Leu	Ser	Val	Pro	Ala	Tyr	Asp	Phe	Val	Ile
				245					250					255	
Lys	Ala	Ser	His	Ala	Phe	Asn	Ile	Leu	Asp	Ala	Arg	Gly	Thr	Ile	Ser
			260					265					270		
Val	Thr	Glu	Arg	Thr	Arg	Tyr	Ile	Ala	Arg	Ile	Arg	Gln	Leu	Thr	Arg
		275					280					285			
Leu	Val	Ala	Asp	Ser	Tyr	Val	Glu	Trp	Arg	Ala	Ser	Leu	Asn	Tyr	Pro
	290					295					300				
Leu	Leu	Ser	Leu	Ser	Ser	Thr	Ser	Glu	Pro	Lys	Glu	Thr	Ser	Glu	Ser
305					310					315					320
Val	Val	Pro	Met	Ile	Ser	Ser	Thr	Glu	Asp	Leu	Leu	Leu	Glu	Ile	Gly
				325					330					335	

Ser Glu Glu Leu Pro Ala Thr Phe Val Pro Ile Gly Ile Gln Gln Leu  
 340 345 350  
 Glu Ser Leu Ala Arg Gln Val Leu Thr Asp His Asn Ile Val Tyr Glu  
 355 360 365  
 Gly Leu Glu Val Leu Gly Ser Pro Arg Arg Leu Ala Leu Leu Val Lys  
 370 375 380  
 Asn Val Ala Pro Glu Val Gln Lys Ala Phe Glu Lys Lys Gly Pro  
 385 390 395 400  
 Met Leu Thr Ser Leu Phe Ser Pro Asp Gly Asp Val Ser Pro Gln Gly  
 405 410 415  
 Gln Gln Phe Phe Ala Ser Gln Gly Val Asp Ile Ser His Tyr Gln Asp  
 420 425 430  
 Leu Ser Arg His Ala Ser Leu Ala Ile Arg Thr Val Asn Gly Ser Glu  
 435 440 445  
 Tyr Leu Phe Leu Leu His Pro Glu Ile Arg Leu Arg Thr Ala Asp Ile  
 450 455 460  
 Leu Met Gln Glu Leu Pro Leu Leu Ile Gln Arg Met Lys Phe Pro Lys  
 465 470 475 480  
 Lys Met Val Trp Asp Asn Ser Gly Val Glu Tyr Ala Arg Pro Ile Arg  
 485 490 495  
 Trp Leu Val Ala Leu Tyr Gly Glu His Ile Leu Pro Ile Thr Leu Gly  
 500 505 510  
 Thr Ile Ile Ala Ser Arg Asn Ser Phe Gly His Arg Gln Leu Asp Pro  
 515 520 525  
 Arg Lys Ile Ser Ile Ser Ser Pro Gln Asp Tyr Val Glu Thr Leu Arg  
 530 535 540  
 Gln Ala Cys Val Val Val Ser Gln Lys Glu Arg Arg Met Ile Ile Glu  
 545 550 555 560  
 Gln Gly Leu Arg Ala His Ser Ser Asp Thr Ile Ser Ala Ile Pro Leu  
 565 570 575  
 Pro Arg Leu Ile Glu Glu Ala Thr Phe Leu Ser Glu His Pro Phe Val  
 580 585 590  
 Ser Cys Gly Gln Phe Ser Glu Gln Phe Cys Ala Leu Pro Lys Glu Leu  
 595 600 605  
 Leu Ile Ala Glu Met Val Asn His Gln Lys Tyr Phe Pro Thr His Glu  
 610 615 620  
 Thr Ser Ser Gly Ala Ile Ser Asn Phe Phe Ile Val Val Cys Asp Asn  
 625 630 635 640  
 Ser Pro Asn Asp Thr Ile Ile Glu Gly Asn Glu Lys Ala Leu Thr Pro  
 645 650 655  
 Arg Leu Thr Asp Gly Glu Phe Leu Phe Lys Gln Asp Leu Gln Thr Pro  
 660 665 670  
 Leu Thr Thr Phe Ile Glu Lys Leu Lys Ser Val Thr Tyr Phe Glu Ala  
 675 680 685  
 Leu Gly Ser Leu Tyr Asp Lys Val Glu Arg Leu Lys Ala His Gln Arg  
 690 695 700  
 Val Phe Ser Thr Phe Ser Ser Leu Ala Ala Ser Glu Asp Leu Asp Ile  
 705 710 715 720  
 Ala Ile Gln Tyr Cys Lys Ala Asp Leu Val Ser Ala Val Val Asn Glu  
 725 730 735  
 Phe Pro Glu Leu Gln Gly Ile Met Gly Glu Tyr Tyr Leu Lys His Ala  
 740 745 750  
 Asn Leu Pro Thr Ala Ser Ala Val Ala Val Gly Glu His Leu Arg His  
 755 760 765  
 Ile Thr Met Gly Gln Lys Leu Ser Thr Ile Gly Thr Leu Leu Ser Leu  
 770 775 780  
 Leu Asp Arg Leu Asp Asn Leu Leu Ala Cys Phe Ile Leu Gly Leu Lys  
 785 790 795 800  
 Pro Thr Ser Ser His Asp Pro Tyr Ala Leu Arg Arg Gln Ser Leu Glu  
 805 810 815



<210> 950  
 <211> 479  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 950  
 Gly Glu Ser Met Arg Ile Val Gln Val Ala Val Glu Phe Thr Pro Ile  
 1 5 10 15  
 Val Lys Val Gly Gly Leu Gly Asp Ala Val Ala Ser Leu Ser Lys Glu  
 20 25 30  
 Leu Ala Lys Gln Asn Asp Val Glu Val Leu Leu Pro His Tyr Pro Leu  
 35 40 45  
 Ile Ser Lys Phe Ser Ser Ser Gln Val Leu Ser Glu Arg Ser Phe Tyr  
 50 55 60  
 Tyr Glu Phe Leu Gly Lys Gln Gln Ala Ser Ala Ile Ser Tyr Ser Tyr  
 65 70 75 80  
 Glu Gly Leu Thr Leu Thr Ile Ile Thr Leu Asp Ser Gln Ile Glu Leu  
 85 90 95  
 Phe Ser Thr Thr Ser Val Tyr Ser Glu Asn Asn Val Val Arg Phe Ser  
 100 105 110  
 Ala Phe Ala Ala Ala Ala Ala Tyr Leu Gln Glu Ala Asp Pro Ala  
 115 120 125  
 Asp Ile Val His Leu His Asp Trp His Val Gly Leu Leu Ala Gly Leu  
 130 135 140  
 Leu Lys Asn Pro Leu Asn Pro Val His Ser Lys Ile Val Phe Thr Ile  
 145 150 155 160  
 His Asn Phe Gly Tyr Arg Gly Tyr Cys Ser Thr Gln Leu Leu Ala Ala  
 165 170 175  
 Ser Gln Ile Asp Asp Phe His Leu Ser His Tyr Gln Leu Phe Arg Asp  
 180 185 190  
 Pro Gln Thr Ser Val Leu Met Lys Gly Ala Leu Tyr Cys Ser Asp Tyr  
 195 200 205  
 Ile Thr Thr Val Ser Leu Thr Tyr Val Gln Glu Ile Ile Asn Asp Tyr  
 210 215 220  
 Ser Asp Tyr Glu Leu His Asp Ala Ile Leu Ala Arg Asn Ser Val Phe  
 225 230 235 240  
 Ser Gly Ile Ile Asn Gly Ile Asp Glu Asp Val Trp Asn Pro Lys Thr  
 245 250 255  
 Asp Pro Ala Leu Ala Val Gln Tyr Asp Ala Ser Leu Leu Ser Glu Pro  
 260 265 270  
 Asp Val Leu Phe Thr Lys Lys Glu Glu Asn Arg Ala Val Leu Tyr Glu  
 275 280 285  
 Lys Leu Gly Ile Ser Ser Asp Tyr Phe Pro Leu Ile Cys Val Ile Ser  
 290 295 300  
 Arg Ile Val Glu Glu Lys Gly Pro Glu Phe Met Lys Glu Ile Ile Leu  
 305 310 315 320  
 His Ala Met Glu His Ser Tyr Ala Phe Ile Leu Ile Gly Thr Ser Gln  
 325 330 335  
 Asn Glu Val Leu Leu Asn Glu Phe Arg Asn Leu Gln Asp Cys Leu Ala  
 340 345 350  
 Ser Ser Pro Asn Ile Arg Leu Ile Leu Asp Phe Asn Asp Pro Leu Ala  
 355 360 365  
 Arg Leu Thr Tyr Ala Ala Ala Asp Met Ile Cys Ile Pro Ser His Arg  
 370 375 380  
 Glu Ala Cys Gly Leu Thr Gln Leu Ile Ala Met Arg Tyr Gly Thr Val  
 385 390 395 400  
 Pro Leu Val Arg Lys Thr Gly Gly Leu Ala Asp Thr Val Ile Pro Gly  
 405 410 415  
 Val Asn Gly Phe Thr Phe Phe Asp Thr Asn Asn Phe Asn Glu Phe Arg  
 420 425 430



Ala Met Leu Ser Asn Ala Val Thr Thr Tyr Arg Gln Glu Pro Asp Val  
435 440 445  
Trp Leu Asn Leu Ile Glu Ser Gly Met Leu Arg Ala Ser Gly Leu Asp  
450 455 460  
Ala Met Ala Lys His Tyr Val Asn Leu Tyr Gln Ser Leu Leu Ser  
465 470 475

<210> 951  
<211> 199  
<212> PRT  
<213> Chlamydia pneumoniae

<400> 951  
Arg Thr Ala Leu Leu Ala Gln Asp Tyr Gly Glu Asn Asn Ile Met Glu  
1 5 10 15  
Leu Val Val Thr Ser Arg Glu Thr Gly Lys Lys Ser Phe Leu Lys Lys  
20 25 30  
Ile Arg Gln Gln Gly Gly Ile Pro Ala Val Val Tyr Ser Ala Gly Lys  
35 40 45  
Ser Leu Ala Asn Ile Thr Val Asp Ala Leu Val Phe Lys Lys Phe Leu  
50 55 60  
Ser Asn Leu Glu Ser Gly Ala Leu Ser Ser Thr Val Phe Ser Leu Ser  
65 70 75 80  
Tyr Glu Gly Arg Ile Ile Lys Ala Leu Val Lys Asp Ile Gln Tyr Gln  
85 90 95  
Ile Thr Thr Tyr Asp Val Ile His Leu Asp Phe Glu Glu Leu Val Glu  
100 105 110  
Asp Arg Pro Ile Lys Leu Asn Ile Pro Ile Arg Cys Ile Asn Ala Val  
115 120 125  
Asp Cys Ile Gly Val Lys Leu Gly Gly Ser Leu Arg Gln Val Ile Arg  
130 135 140  
Ala Val Arg Val Val Cys Lys Pro Lys Asp Ile Val Pro Phe Leu Glu  
145 150 155 160  
Leu Asp Val Arg Ser Val Gly Leu Ser Gln Thr Arg Lys Leu Ser Asp  
165 170 175  
Ile Lys Ile Pro Ala Gly Ile Glu Thr Ile Thr Pro Leu Lys Glu Val  
180 185 190  
Ala Ile Thr Val Ser Arg Arg  
195

<210> 952  
<211> 186  
<212> PRT  
<213> Chlamydia pneumoniae

<400> 952  
Pro Ser Leu Glu Asp Asn Met Ala Lys Leu Ile Val Ala Ile Gly Asn  
1 5 10 15  
Pro Arg His Gly Tyr Ala Asn Thr Arg His Asn Ala Gly Phe Leu Leu  
20 25 30  
Ala Asp Arg Leu Val Glu Glu Leu Gln Gly Pro Pro Phe Lys Pro Leu  
35 40 45  
Ser Lys Cys His Ala Leu Met Thr Leu Val Glu Ser Ser Ser Gly Pro  
50 55 60  
Leu Val Phe Ile Lys Pro Thr Thr Phe Val Asn Leu Ser Gly Lys Ala  
65 70 75 80  
Val Val Leu Ala Lys Lys Tyr Phe Asn Val Ala Leu Ser His Ile Leu  
85 90 95  
Val Leu Ala Asp Asp Val Asn Arg Ser Phe Gly Lys Leu Arg Leu Cys  
100 105 110

Phe	Asn	Gly	Gly	Ser	Gly	Gly	His	Asn	Gly	Leu	Lys	Ser	Ile	Thr	Ala
	115						120					125			
Ser	Leu	Gly	Ser	Asn	Glu	Tyr	Trp	Gln	Leu	Arg	Phe	Gly	Val	Gly	Arg
	130					135					140				
Pro	Leu	Glu	Glu	Gly	Val	Glu	Leu	Ser	Asn	Phe	Val	Leu	Gly	Lys	Phe
145					150					155					160
Ser	Glu	Glu	Glu	Asn	Leu	Gln	Leu	Gly	Ser	Ile	Phe	Val	Glu	Ala	Ser
				165					170					175	
Thr	Leu	Phe	Thr	Glu	Trp	Cys	Ser	Lys	Phe						
			180					185							

<210> 953  
 <211> 115  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 953

Glu	Phe	Leu	Met	Gly	Lys	Lys	Glu	Asn	Gln	Leu	Tyr	Glu	Gly	Ala	Tyr
1				5					10					15	
Val	Phe	Ser	Val	Thr	Leu	Ser	Glu	Glu	Ala	Arg	Arg	Lys	Ala	Leu	Asp
			20					25					30		
Lys	Val	Ile	Ser	Gly	Ile	Thr	Asn	Tyr	Gly	Gly	Glu	Ile	His	Lys	Ile
		35					40					45			
His	Asp	Gln	Gly	Arg	Lys	Lys	Leu	Ala	Tyr	Thr	Ile	Arg	Gly	Ala	Arg
	50					55					60				
Glu	Gly	Tyr	Tyr	Tyr	Phe	Ile	Tyr	Phe	Ser	Val	Ser	Pro	Gly	Ala	Ile
65					70					75					80
Thr	Glu	Leu	Trp	Lys	Glu	Tyr	His	Leu	Asn	Glu	Asp	Leu	Leu	Arg	Phe
				85					90					95	
Met	Thr	Leu	Arg	Ala	Asp	Ser	Val	Lys	Glu	Val	Leu	Glu	Phe	Ala	Ser
			100					105					110		
Leu	Pro	Glu													
			115												

<210> 954  
 <211> 85  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 954

Gly	Glu	Asn	Met	Asn	Lys	Pro	Val	His	Asn	Asn	Glu	His	Arg	Arg	Lys
1				5					10					15	
Arg	Phe	Asn	Lys	Lys	Cys	Pro	Phe	Val	Ser	Ala	Gly	Trp	Lys	Thr	Ile
			20					25					30		
Asp	Tyr	Lys	Asp	Val	Glu	Thr	Leu	Lys	Lys	Phe	Ile	Thr	Glu	Arg	Gly
		35					40					45			
Lys	Val	Leu	Pro	Arg	Arg	Ile	Thr	Gly	Val	Ser	Ser	Arg	Phe	Gln	Gly
	50					55					60				
Val	Leu	Ser	Gln	Ala	Ile	Lys	Arg	Ala	Arg	His	Leu	Gly	Leu	Leu	Pro
65					70					75					80
Phe	Val	Gly	Glu	Asp											
				85											

<210> 955  
 <211> 174  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 955

Phe	Lys	Gly	Arg	Arg	Met	Lys	Gln	Gln	Leu	Leu	Leu	Leu	Glu	Asp	Val
1					5				10					15	

Asp Gly Leu Gly Arg Ser Gly Asp Leu Ile Thr Ala Arg Pro Gly Tyr  
                   20                  25                  30  
 Val Arg Asn Tyr Leu Ile Pro Lys Lys Ala Val Ile Ala Gly Ala  
                   35                  40                  45  
 Gly Thr Leu Arg Leu Gln Ala Lys Leu Lys Glu Gln Arg Leu Ile Gln  
           50                  55                  60  
 Ala Ala Ala Asp Lys Ala Asp Ser Glu Arg Ile Ala Gln Ala Leu Lys  
 65                  70                  75                  80  
 Asp Ile Val Leu Glu Phe Gln Val Arg Val Asp Pro Asp Asn Asn Met  
                   85                  90                  95  
 Tyr Gly Ser Val Thr Ile Ala Asp Ile Ile Ala Glu Ala Ala Lys Lys  
                   100                  105                  110  
 Asn Ile Phe Leu Val Arg Lys Asn Phe Pro His Ala His Tyr Ala Ile  
           115                  120                  125  
 Lys Asn Leu Gly Lys Lys Asn Ile Pro Leu Lys Leu Lys Glu Glu Val  
 130                  135                  140  
 Thr Ala Thr Leu Leu Val Glu Val Thr Ser Asp Asn Glu Tyr Val Thr  
 145                  150                  155                  160  
 Val Leu Ala Gln Gly Lys Gln Thr Glu Glu Asn Gln Glu Gly  
                   165                  170

<210> 956  
 <211> 150  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 956  
 Gly Arg Lys Val Cys Tyr Lys Asp Ile Met Gln Tyr Phe Ser Pro Ala  
 1                  5                  10                  15  
 Lys Leu Asn Leu Phe Leu Lys Ile Trp Gly Lys Arg Phe Asp Asn Phe  
           20                  25                  30  
 His Glu Leu Thr Thr Leu Tyr Gln Ala Ile Asp Phe Gly Asp Thr Leu  
           35                  40                  45  
 Ser Leu Lys Asn Ser Met Lys Asp Ser Leu Ser Ser Asn Val Asn Glu  
           50                  55                  60  
 Leu Leu Ser Pro Ser Asn Leu Ile Trp Lys Ser Leu Glu Ile Phe Arg  
 65                  70                  75                  80  
 Arg Glu Thr Gln Ile His Gln Pro Val Ser Trp His Leu Asn Lys Ser  
                   85                  90                  95  
 Ile Pro Leu Gln Ser Gly Leu Gly Gly Gly Ser Ser Asn Ala Ala Thr  
                   100                  105                  110  
 Ala Leu Tyr Ala Leu Asn Glu His Phe Gln Thr His Ile Pro Ile Thr  
                   115                  120                  125  
 Thr Leu Gln Leu Trp Ala Arg Glu Ile Gly Ser Asp Val Pro Phe Phe  
 130                  135                  140  
 Phe Leu Gln Glu Gln His  
 145                  150

<210> 957  
 <211> 188  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 957  
 Arg Ala Phe Pro Asn Pro Tyr Ser Tyr Asn Asn Ile Ala Thr Leu Gly  
 1                  5                  10                  15  
 Ser Arg Asn Arg Lys Arg Cys Ser Phe Phe Phe Ser Ser Gly Thr Ala  
           20                  25                  30  
 Leu Gly Lys Gly Arg Gly Glu His Leu Phe Ser Ile Lys Lys Leu Asn  
           35                  40                  45

His Lys His Lys Tyr Val Leu Tyr Leu Asp His Gln Gly Ile Pro Thr  
 50 55 60  
 Glu Lys Ala Tyr Gln Ser Leu Leu Pro Gln Asp Tyr Ser Thr Gly Asn  
 65 70 75 80  
 His Asn Ala Cys Phe Tyr Gly Glu Asn Asp Leu Glu Lys Ser Val Phe  
 85 90 95  
 Arg Ile Arg Thr Asp Leu Lys Asn Lys Lys His Met Leu Glu Arg Met  
 100 105 110  
 Trp Ser Pro Phe Glu Ser His Val Leu Met Ser Gly Ser Gly Ala Thr  
 115 120 125  
 Leu Phe Val Cys Tyr Leu Glu Glu Leu Glu Gln Asp Ser Lys Val Ser  
 130 135 140  
 Ser Gln Ile His Ser Leu Ile Lys Gln Thr Gln Gly Ile Pro Val Ser  
 145 150 155 160  
 Arg Leu Tyr Arg Glu Pro His Trp Tyr Ser Leu Lys Gln Ser Thr Tyr  
 165 170 175  
 Lys Asn Ser Pro Leu Glu Cys Phe Gln Pro Gln Ile  
 180 185

<210> 958

<211> 455

<212> PRT

<213> Chlamydia pneumoniae

<400> 958

Leu Val Trp Phe Ser Met Ile Leu Pro Pro Tyr Ser Tyr Ser Leu Lys  
 1 5 10 15  
 Ile Gly Ala Ala Val Leu Phe Phe Cys Ser Ile Leu His Thr Phe Leu  
 20 25 30  
 Thr Pro Trp Leu Tyr Thr Leu Cys Gln Ser Tyr Glu His Lys Lys Leu  
 35 40 45  
 Val Phe Pro Glu Cys Trp Lys Arg Tyr Ala Arg Leu Ser Glu Leu Phe  
 50 55 60  
 Arg Ile Leu Ser Arg Val Glu Ile Val Phe Phe Leu Trp Ala Val Pro  
 65 70 75 80  
 Leu Phe Phe Trp Phe Leu Tyr Thr Glu Gly Tyr Arg Ile Ser Met Ala  
 85 90 95  
 Tyr Phe Asn Ser Arg Asn Tyr Gly Phe Ala Val Phe Ile Met Val Ile  
 100 105 110  
 Leu Ile Leu Leu Glu Ser Arg Pro Ile Val Tyr Phe Ala Glu Leu Val  
 115 120 125  
 Leu Ser Ser Ile Ala Lys Leu Gly Lys Thr Ser Pro Lys Ser Trp Trp  
 130 135 140  
 Trp Thr Leu Met Ile Ala Pro Pro Leu Leu Ser Cys Leu Leu Lys Glu  
 145 150 155 160  
 Thr Gly Ala Met Ile Ile Gly Ala Thr Leu Met Arg His Phe Tyr  
 165 170 175  
 Val Phe Ser Pro Ser Arg Arg Phe Ala Tyr Ala Thr Met Gly Leu Leu  
 180 185 190  
 Phe Ser Asn Ile Ser Ile Gly Gly Leu Thr Ser Tyr Val Ser Ser Arg  
 195 200 205  
 Ala Leu Phe Leu Ile Phe Pro Ala Leu Lys Trp Glu His Ser Phe Phe  
 210 215 220  
 Leu Ser His Phe Ala Trp Lys Ala Ile Val Ala Ile Leu Ile Ser Thr  
 225 230 235 240  
 Thr Ile Tyr Tyr Phe Ile Phe Arg Lys Glu Phe Lys Lys Phe Pro Asp  
 245 250 255  
 Ile Pro Ser Asp Lys Asp Pro Ser Val Glu Lys Val Pro Trp Trp Ile  
 260 265 270  
 Ile Cys Val Asn Ile Ile Phe Val Gly Ser Ile Ile Leu Ser Arg Ser  
 275 280 285

Thr	Pro	Leu	Phe	Met	Gly	Ala	Leu	Leu	Leu	Phe	Tyr	Leu	Gly	Phe	Gln
	290					295					300				
Lys	Phe	Thr	Ile	Phe	Tyr	Gln	Asp	Pro	Ile	Asn	Leu	Ser	Lys	Val	Cys
305					310					315					320
Tyr	Val	Gly	Leu	Phe	Tyr	Ala	Gly	Leu	Val	Val	Phe	Gly	Asp	Leu	Gln
				325					330					335	
Glu	Trp	Trp	Val	Leu	Asn	Leu	Met	Gln	Gly	Leu	Ser	Asp	Phe	Gly	Tyr
			340					345					350		
Met	Thr	Val	Ser	Tyr	Thr	Leu	Ser	Ile	Phe	Leu	Asp	Asn	Ala	Leu	Val
		355					360					365			
Asn	Tyr	Leu	Val	His	Asn	Leu	Ser	Val	Ala	Thr	Asp	Cys	Tyr	His	Tyr
	370					375					380				
Leu	Val	Val	Ala	Gly	Cys	Met	Ala	Ala	Gly	Gly	Leu	Thr	Leu	Val	Ser
385					390					395					400
Asn	Ile	Pro	Asn	Ile	Val	Gly	Tyr	Leu	Ile	Leu	Arg	Ser	Ala	Phe	Pro
				405					410					415	
Ser	Ser	Thr	Ile	His	Met	Gly	Trp	Leu	Phe	Leu	Gly	Ala	Leu	Gly	Pro
			420				425						430		
Ser	Ile	Ile	Ser	Leu	Gly	Val	Phe	Trp	Leu	Leu	Lys	Asn	Val	Pro	Glu
		435					440					445			
Phe	Leu	Tyr	Cys	Phe	Phe	Arg									
	450					455									

<210> 959

<211> 950

<212> PRT

<213> Chlamydia pneumoniae

<400> 959

Lys	Ile	Tyr	Thr	Arg	Asn	Cys	Lys	Met	Phe	Trp	Lys	Leu	Leu	Cys	Pro
1				5					10					15	
Ile	Leu	Ile	Cys	Thr	Ser	Leu	Ser	Ile	Thr	Ser	Cys	Glu	Gln	Gln	Phe
			20					25					30		
Lys	Val	Val	Pro	Asn	Gln	Cys	Pro	Leu	Gln	Val	Ser	Thr	Pro	Ala	Ala
		35					40					45			
Ala	Asp	Gln	Lys	Ile	Glu	Lys	Ile	Ile	Cys	Ser	Asn	Gly	Leu	Pro	Leu
	50					55					60				
Leu	Ile	Ile	Ser	Asp	Pro	Asn	Leu	Pro	Thr	Ser	Gly	Ala	Ala	Leu	Leu
65				70					75					80	
Val	Lys	Thr	Gly	Asn	Asn	Ala	Asp	Pro	Glu	Glu	Tyr	Pro	Gly	Met	Ala
				85				90						95	
His	Phe	Thr	Glu	His	Cys	Val	Phe	Leu	Gly	Asn	Glu	Lys	Tyr	Pro	Glu
			100					105					110		
Val	Ser	Gly	Phe	Pro	Gly	Phe	Leu	Ser	Glu	Asn	Asn	Gly	Val	His	Asn
		115					120					125			
Ala	Phe	Thr	Tyr	Pro	Asn	Lys	Thr	Val	Phe	Val	Phe	Ser	Val	Glu	His
						135					140				
Ser	Ala	Phe	Ser	Asp	Ala	Leu	Asp	Gln	Phe	Val	His	Leu	Phe	Ile	Asn
145					150					155				160	
Pro	Lys	Phe	Arg	Gln	Glu	Asp	Leu	Asp	Arg	Glu	Lys	Tyr	Ala	Val	His
				165				170						175	
Gln	Glu	Phe	Ala	Ala	His	Pro	Leu	Ser	Asp	Gly	Arg	Arg	Val	His	Arg
			180					185					190		
Ile	Gln	Gln	Leu	Val	Ala	Pro	Gln	Gly	His	Pro	Cys	Ala	Arg	Phe	Gly
		195					200					205			
Cys	Gly	Asn	Ala	Ser	Thr	Leu	Thr	Pro	Val	Thr	Thr	Glu	Lys	Met	Ala
	210					215					220				
Glu	Trp	Phe	Lys	Leu	His	Tyr	Ser	Pro	Glu	Asn	Met	Cys	Ala	Ile	Ala
225					230					235				240	
Tyr	Thr	Ser	Ala	Pro	Leu	Ser	Lys	Ala	Lys	Lys	Gln	Phe	Ser	Lys	Ile
				245					250					255	

Phe	Ser	Gln	Ile	Pro	Arg	Ser	Lys	Asn	Tyr	Glu	Arg	Gln	Glu	Pro	Phe	260	265	270
Leu	Pro	Ser	Gly	Asp	Thr	Ser	Ser	Leu	Lys	Asn	Leu	Tyr	Ile	Asn	Gln	275	280	285
Ala	Ile	Gln	Pro	Thr	Ser	Asn	Leu	Glu	Ile	Tyr	Trp	His	Ile	Tyr	Glu	290	295	300
Ser	Ser	His	Pro	Ile	Pro	Leu	Gly	Cys	Tyr	Lys	Ala	Leu	Ala	Glu	Val	305	310	315
Leu	Arg	Asn	Glu	Ser	Lys	Asn	Ser	Leu	Val	Ser	Leu	Leu	Lys	Asn	Glu	325	330	335
Gln	Leu	Ile	Thr	Asp	Leu	Asp	Val	Glu	Phe	Phe	Arg	Ser	Ser	Leu	Asn	340	345	350
Thr	Gly	Glu	Phe	Tyr	Ile	Ser	Tyr	Glu	Leu	Thr	Glu	Lys	Gly	Asp	Lys	355	360	365
His	Tyr	Ser	Gln	Val	Ile	Asp	Ser	Thr	Phe	Gln	Tyr	Leu	Arg	Tyr	Ile	370	375	380
Gln	Glu	His	Gly	Ile	Pro	Asn	Tyr	Thr	Leu	Glu	Glu	Ile	Ser	Thr	Ile	385	390	395
Asn	Ala	Leu	Asn	Tyr	Cys	Tyr	Ser	Ser	Lys	Ser	Pro	Leu	Phe	Asp	Leu	405	410	415
Leu	Cys	Lys	Gln	Ile	Val	Ser	Leu	Gly	Asn	Glu	Asp	Leu	Ser	Thr	Tyr	420	425	430
Pro	Tyr	His	Ser	Leu	Val	Tyr	Pro	Lys	Tyr	Ser	Ser	Glu	Asp	Glu	Ser	435	440	445
Ala	Leu	Leu	Asn	Leu	Val	Ser	Asp	Pro	Glu	Gln	Ala	Arg	Phe	Val	Leu	450	455	460
Ser	Ser	Lys	Asn	Ser	Glu	His	Trp	Glu	Glu	Ala	Thr	Gln	Leu	His	Asp	465	470	475
Pro	Ile	Phe	Asp	Met	Thr	Tyr	Tyr	Val	Lys	Ala	Leu	Asp	Gly	Val	Gln	485	490	495
Asp	Tyr	Gly	Lys	Val	Gln	Ser	Leu	Lys	Pro	Ile	Ala	Leu	Pro	Lys	Pro	500	505	510
Asn	Leu	Phe	Ile	Pro	Lys	Glu	Val	Thr	Leu	Pro	Gly	Val	His	Leu	Leu	515	520	525
Lys	Lys	Gln	Glu	Phe	Pro	Phe	Ala	Pro	Ala	Leu	Ser	Tyr	Gln	Asp	Asp	530	535	540
Lys	Leu	Thr	Leu	Tyr	His	Cys	Glu	Asp	His	Tyr	Tyr	Thr	Ala	Pro	Lys	545	550	555
Leu	Ser	Ser	Gln	Ile	Arg	Ile	Arg	Ser	Pro	Gln	Ile	Ser	Arg	Ser	Ser	565	570	575
Pro	Gln	Phe	Leu	Val	Ala	Thr	Glu	Leu	Tyr	Cys	Leu	Ala	Val	Asn	Asp	580	585	590
Gln	Leu	Leu	Arg	Glu	Tyr	Tyr	Pro	Ala	Thr	Gln	Ala	Gly	Leu	Ser	Phe	595	600	605
Thr	Ser	Ala	Leu	Gly	Gly	Asp	Gly	Ile	Asp	Leu	Arg	Val	Ser	Gly	Tyr	610	615	620
Thr	Thr	Thr	Val	Pro	Ala	Leu	Leu	Asn	Ser	Ile	Leu	Thr	Ser	Leu	Pro	625	630	635
Asn	Leu	Glu	Ile	Ser	Tyr	Glu	Thr	Phe	Leu	Val	Tyr	Lys	Lys	Gln	Leu	645	650	655
Leu	Glu	Leu	Tyr	Gln	Gly	Ala	Leu	Leu	Asn	Cys	Pro	Val	Arg	Ser	Gly	660	665	670
Leu	Asp	Glu	Leu	Ala	Ser	Gln	Val	Met	Lys	Glu	Thr	Tyr	Ser	Asn	Thr	675	680	685
Thr	Lys	Leu	Ser	Ala	Leu	Glu	Lys	Leu	Ser	Phe	Ser	Glu	Phe	Gln	Ala	690	695	700
Phe	Ala	Ser	Asn	Leu	Phe	Asn	Ser	Val	His	Leu	Glu	Val	Met	Val	Leu	705	710	715
Gly	Asn	Leu	Ser	Glu	Gln	Gln	Lys	Lys	Asp	Tyr	Leu	Glu	Met	Leu	Gln	725	730	735

Val	Phe	Thr	Ala	Ser	Arg	Ser	Ser	His	Ala	Thr	Lys	Pro	Phe	Tyr	Tyr
			740					745					750		
Glu	Leu	Gln	Ser	Gln	Glu	Ile	Ser	Glu	Ile	His	His	Asp	Tyr	Pro	Leu
		755					760					765			
Thr	Ala	Asn	Gly	Met	Leu	Leu	Leu	Gln	Asp	Lys	Ser	Ser	Pro	Ser	
	770					775				780					
Ile	Gln	Gly	Lys	Val	Cys	Ala	Glu	Met	Leu	Phe	Glu	Trp	Leu	His	His
785					790					795					800
Ile	Thr	Phe	Glu	Glu	Leu	Arg	Thr	Gln	Gln	Gln	Leu	Gly	Tyr	Met	Val
				805					810						815
Gly	Ala	Arg	Tyr	Arg	Glu	Phe	Ala	Ser	Arg	Pro	Phe	Gly	Phe	Leu	Tyr
			820					825					830		
Ile	Arg	Ser	Asp	Ala	Tyr	Ser	Pro	Glu	Glu	Leu	Leu	Ala	Lys	Thr	Ser
		835					840					845			
Leu	Phe	Leu	Asn	Lys	Val	Ser	Ala	Ser	Pro	Glu	Lys	Phe	Gly	Ile	Ser
	850					855					860				
Gln	Glu	Lys	Phe	Ala	Asn	Ile	Arg	Lys	Ala	Tyr	Ile	Asn	Lys	Ile	Leu
865					870					875					880
Glu	Pro	Glu	His	Ser	Leu	Asp	Met	Met	Asn	Ser	Ala	Leu	Phe	Ser	Leu
				885					890						895
Ala	Phe	Glu	Arg	Pro	Phe	Val	Glu	Phe	Ser	Thr	Pro	Asp	Leu	Lys	Ile
			900					905					910		
Ala	Ile	Ala	Glu	Thr	Leu	Thr	Tyr	Glu	Glu	Phe	Leu	Lys	Tyr	Cys	Gln
		915					920					925			
Cys	Phe	Leu	Ser	Asn	Glu	Leu	Gly	Thr	Gln	Thr	Ser	Val	Tyr	Ile	Arg
	930					935					940				
Gly	Thr	Gln	Lys	Thr	Ser										
945					950										

<210> 960  
 <211> 337  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 960

Ile	Tyr	Arg	Ala	Ile	Tyr	Met	Gln	Phe	Ser	Arg	Tyr	Leu	Arg	Tyr	Ala
1				5					10					15	
Phe	Asp	Asn	Gln	Tyr	Leu	Pro	Glu	Pro	Leu	Tyr	Gln	Lys	Phe	Ser	Val
		20						25					30		
Phe	His	Gln	Asn	Tyr	Ile	Asp	Ala	Ala	Thr	Lys	Lys	Ala	Ala	Ala	Asp
		35					40					45			
Gln	Ala	Glu	Val	Leu	Cys	Leu	Gln	Trp	Val	Lys	Val	Ile	Ile	Glu	Asp
	50					55					60				
Leu	Lys	Asn	Pro	Phe	Ile	Phe	Pro	Pro	Tyr	His	Lys	Lys	Ile	Arg	Ala
65					70					75					80
Pro	Ile	Asp	Leu	Phe	Arg	Leu	Ser	Ile	Asp	Phe	Phe	Ser	Leu	Val	Ile
				85					90					95	
Asp	Asp	Lys	Asn	Ser	Arg	Ile	Leu	Asn	Leu	His	Arg	Leu	Lys	Glu	Ile
			100					105					110		
Glu	Glu	Tyr	Ile	Ala	Arg	Gly	Asp	Asn	Val	Val	Leu	Leu	Ala	Asn	His
		115					120						125		
Gln	Thr	Glu	Cys	Asp	Pro	Gln	Leu	Met	Tyr	Tyr	Ala	Leu	Gly	Lys	Thr
	130					135					140				
His	Pro	Glu	Leu	Met	Glu	Asn	Met	Ile	Phe	Val	Ala	Gly	Asp	Arg	Val
145					150					155					160
Thr	Ser	Asp	Pro	Leu	Ala	Arg	Pro	Phe	Ser	Met	Gly	Cys	Asp	Leu	Leu
				165					170					175	
Cys	Ile	Tyr	Ser	Lys	Arg	His	Ile	Ala	Thr	Pro	Pro	Glu	Leu	Arg	Glu
		180						185					190		
Glu	Lys	Leu	Leu	His	Asn	Gln	Lys	Ser	Met	Gln	Ile	Leu	Lys	Thr	Leu
	195						200						205		

Leu	Asn	Glu	Gly	Gly	Lys	Phe	Ile	Tyr	Val	Ala	Pro	Ala	Gly	Gly	Arg
210						215					220				
Asp	Arg	Lys	Asn	Ala	Glu	Gly	Arg	Leu	Tyr	Pro	Ser	Glu	Phe	Ser	Pro
225					230					235					240
Glu	Ser	Ile	Glu	Val	Phe	Arg	Leu	Leu	Ala	Lys	Ala	Ser	Asn	Gln	Thr
				245					250					255	
Thr	His	Phe	Tyr	Pro	Phe	Ala	Leu	Lys	Thr	Tyr	Asp	Ile	Leu	Pro	Pro
			260					265					270		
Pro	Pro	Lys	Ile	Glu	Asn	Ala	Ile	Gly	Glu	Gln	Arg	Ala	Ile	Phe	Phe
		275					280					285			
Ala	Pro	Val	Phe	Phe	Asn	Phe	Gly	Ala	Glu	Leu	Phe	Phe	Asp	Ala	Leu
	290					295					300				
Cys	Ser	Lys	Glu	Glu	Leu	Ile	His	Cys	Asp	Lys	His	Ala	Gln	Arg	Thr
305					310					315					320
Leu	Arg	Ala	Glu	Lys	Val	Phe	Ser	Ile	Val	Lys	Asn	Leu	Tyr	Glu	Glu
				325					330					335	

Leu

<210> 961  
 <211> 526  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 961

Ala	Gln	Gly	Tyr	Gly	Ile	Gly	Thr	Arg	Lys	Val	Met	Glu	Asn	Glu	Ile
1				5					10					15	
Leu	Leu	Asn	Ile	Glu	Ser	Lys	Glu	Ile	Arg	Tyr	Ala	His	Leu	Lys	Asn
		20						25					30		
Gly	Gln	Leu	Phe	Asp	Leu	Thr	Ile	Glu	Arg	Lys	Lys	Val	Arg	Gln	Leu
	35					40						45			
Lys	Gly	Asn	Ile	Tyr	Arg	Gly	Arg	Val	Thr	Asn	Ile	Leu	Arg	Asn	Ile
	50					55					60				
Gln	Ser	Ala	Phe	Ile	Asn	Ile	Asp	Glu	Arg	Glu	Asn	Gly	Phe	Ile	His
65					70					75					80
Ile	Ser	Asp	Ile	Leu	Glu	Asn	Ser	Lys	Lys	Phe	Glu	Gln	Met	Phe	Asp
			85					90					95		
Met	Asp	Val	Asp	Ala	Leu	Pro	Glu	Glu	Ala	Ser	Glu	Ala	Pro	Leu	Leu
		100						105					110		
Ser	Ser	Glu	Glu	Ala	Pro	Ile	Glu	Glu	Phe	Leu	Lys	Leu	Asp	Ser	Pro
		115					120						125		
Val	Leu	Val	Gln	Val	Val	Lys	Glu	Pro	Ile	Gly	Ser	Lys	Gly	Ala	Arg
	130					135					140				
Leu	Thr	Ser	Asn	Ile	Ser	Ile	Pro	Gly	Arg	Tyr	Leu	Val	Leu	Leu	Pro
145					150					155					160
Asn	Ser	Pro	His	Arg	Gly	Val	Ser	Arg	Lys	Ile	Glu	Asp	Pro	His	Met
			165						170					175	
Arg	Glu	Gln	Leu	Lys	Gln	Leu	Ile	Arg	Ser	Phe	Glu	Met	Pro	Gln	Asp
		180						185					190		
Met	Gly	Leu	Ile	Cys	Arg	Thr	Ala	Ser	Thr	Thr	Ala	Ser	Thr	Glu	Ala
		195					200					205			
Leu	Ile	Asn	Glu	Ala	His	Asp	Leu	Leu	Leu	Thr	Trp	Lys	Thr	Ile	Leu
	210					215					220				
Glu	Lys	Phe	Tyr	Ser	Thr	Glu	Gln	Pro	Cys	Leu	Leu	Tyr	Ser	Glu	Thr
225					230					235					240
Asp	Ile	Leu	Lys	Lys	Ala	Val	Ile	Thr	Cys	Ile	Asp	Lys	Asn	Tyr	Lys
			245						250					255	
Arg	Leu	Leu	Ile	Asp	Asp	Tyr	Ala	Thr	Tyr	Gln	Lys	Cys	Lys	His	Met
		260						265					270		
Leu	Lys	Lys	Tyr	Ser	Pro	Asp	Ala	Ser	Ile	Lys	Ile	Glu	Tyr	Tyr	Arg
		275					280						285		



Asp	Ser	Ile	Pro	Met	Phe	Glu	Arg	Phe	Asn	Ile	Glu	Lys	Glu	Ile	Asp
290						295					300				
Lys	Ala	Thr	Arg	Arg	Lys	Ile	Trp	Leu	Ser	Ser	Gly	Gly	Tyr	Leu	Phe
305					310					315					320
Phe	Asp	Lys	Thr	Glu	Ala	Met	His	Thr	Ile	Asp	Val	Asn	Ser	Gly	Arg
				325					330					335	
Ser	Thr	Gln	Leu	Glu	Ser	Gly	Val	Glu	Glu	Thr	Leu	Val	Gln	Ile	Asn
			340					345					350		
Leu	Glu	Ala	Ala	Glu	Glu	Ile	Ala	Arg	Gln	Leu	Arg	Leu	Arg	Asn	Val
		355					360					365			
Gly	Gly	Leu	Val	Ile	Ile	Asp	Phe	Ile	Asp	Met	Lys	Ser	Arg	Lys	Asn
		370				375					380				
Gln	Arg	Arg	Val	Leu	Glu	Arg	Leu	Lys	Glu	His	Met	Lys	Tyr	Asp	Ala
385						390				395					400
Ala	Arg	Cys	Thr	Ile	Leu	Ser	Met	Ser	Glu	Phe	Gly	Leu	Val	Glu	Met
				405					410					415	
Thr	Arg	Gln	Arg	Asn	Arg	Glu	Ser	Leu	Met	Gln	Thr	Leu	Phe	Thr	Leu
			420					425					430		
Cys	Pro	Tyr	Cys	Ser	Gly	Asn	Ala	Ile	Ile	Lys	Thr	Pro	Glu	Ser	Val
		435					440					445			
Val	Ile	Glu	Ile	Glu	Arg	Asp	Leu	Lys	Lys	Val	Ile	Asn	His	Lys	Glu
	450					455					460				
His	Ser	His	Leu	Cys	Leu	Val	Val	His	Pro	Glu	Ile	Ala	Ser	Tyr	Met
465					470					475					480
Lys	Gln	Glu	Asn	Asp	Asp	Asn	Glu	Met	Ile	Asn	Leu	Ala	Lys	Gln	Leu
				485				490						495	
Lys	Ala	Lys	Leu	Gln	Ile	Asn	Thr	Ser	Asp	Ser	Val	His	Leu	Asn	His
			500					505					510		
Tyr	Gln	Phe	Phe	Ser	Leu	Ile	Thr	Gly	Glu	Ser	Ile	Asp	Leu		
		515					520					525			

<210> 962

<211> 176

<212> PRT

<213> Chlamydia pneumoniae

<400> 962

Ser	Leu	Ser	Leu	Val	Ser	Tyr	Leu	Ser	Asn	Pro	Gln	Lys	Ala	Leu	Val
1				5					10					15	
Leu	Gly	Ser	Lys	Gly	Phe	Ser	Met	Asp	Cys	Val	Asp	Asn	Leu	Lys	Leu
			20					25					30		
Tyr	Ile	Phe	Arg	Leu	Lys	Leu	Pro	Gly	Asp	Thr	Glu	Arg	Ile	Ser	Tyr
		35					40					45			
Ser	Ile	Ser	Pro	Glu	Tyr	Ile	Arg	Glu	Lys	Gly	Glu	Glu	Glu	Leu	Leu
		50				55					60				
Asn	Ser	Pro	Ile	Glu	Val	Glu	Gly	Ser	Leu	Gly	Arg	Ile	Asp	Ser	Asp
65					70					75					80
Gln	Trp	Ile	Leu	Ser	Leu	Ser	Leu	Lys	Thr	Gln	Leu	Gly	Leu	Cys	Cys
			85						90					95	
Pro	Val	Cys	Asn	Asn	Phe	Phe	Ser	His	Ser	Val	Cys	Leu	Pro	Asp	Leu
			100					105					110		
Gln	Arg	Val	Ile	Ser	His	Asp	Glu	Val	Gly	Ser	Gly	Val	Phe	Asp	Cys
		115					120					125			
Arg	Pro	Leu	Ile	Arg	Gln	Glu	Leu	Leu	Leu	Glu	Ser	Asp	Cys	Phe	Glu
		130				135					140				
Glu	Cys	Ser	Gly	Gln	Gly	Cys	Pro	Glu	Arg	Lys	Asn	Ile	Leu	Lys	Phe
145					150					155					160
Leu	Glu	Asp	Arg	Lys	Lys	His	Glu	Gly	Asn	Ser	Pro	Phe	Glu	Tyr	Leu
				165					170					175	

<210> 963  
 <211> 64  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 963  
 Lys Val Arg Asn Met Ala Val Pro Arg Asn Arg His Ser Asn Ala Arg  
 1 5 10 15  
 Lys Asn Ile Arg Arg Ser His Asp Ala Lys Lys Ala Cys His Ala Ala  
 20 25 30  
 Lys Cys Ser Asn Cys Lys His Ala Leu Leu Pro His Thr Ile Cys Pro  
 35 40 45  
 Ser Cys Gly Phe Tyr Asn Gly Lys Ala Val Met Thr Val Glu Lys Lys  
 50 55 60

<210> 964  
 <211> 325  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 964  
 Ile Leu Ser Asp Phe Met Glu Val Gln Ile Gly Ile Asp Leu Met Gly  
 1 5 10 15  
 Gly Asp His Ser Pro Leu Val Val Trp Gln Val Leu Val Asp Val Leu  
 20 25 30  
 Lys Ser Gln Ser Ser Thr Ile Pro Phe Ala Phe Thr Leu Phe Ala Ser  
 35 40 45  
 Glu Glu Ile Arg Lys Gln Ile Gln Glu Glu Phe Ile Ser Asp Leu Pro  
 50 55 60  
 Gln Glu Lys Phe Pro Lys Ile Ile Ser Ala Glu Asn Phe Val Ala Met  
 65 70 75 80  
 Glu Asp Ser Pro Leu Ala Ala Ile Arg Lys Lys Ser Ser Ser Met Ala  
 85 90 95  
 Leu Gly Leu Asp Tyr Leu Gln Glu Asp Lys Leu Asp Ala Phe Ile Ser  
 100 105 110  
 Thr Gly Asn Thr Gly Ala Leu Val Thr Leu Ala Arg Ala Lys Ile Pro  
 115 120 125  
 Leu Phe Pro Ala Val Ser Arg Pro Ala Leu Leu Val Cys Val Pro Thr  
 130 135 140  
 Met Arg Gly His Ala Val Ile Leu Asp Val Gly Ala Asn Ile Ser Val  
 145 150 155 160  
 Lys Pro Glu Glu Met Val Gly Phe Ala Arg Met Gly Leu Ala Tyr Arg  
 165 170 175  
 Gln Cys Leu Gly Asp Ser Lys Ile Pro Thr Ile Gly Leu Leu Asn Ile  
 180 185 190  
 Gly Ser Glu Glu Arg Lys Gly Thr Glu Ala His Arg Gln Thr Phe Arg  
 195 200 205  
 Met Leu Arg Glu Thr Phe Gly Glu Ala Phe Leu Gly Asn Ile Glu Ser  
 210 215 220  
 Gly Ala Val Phe Asp Gly Ala Ala Asp Ile Val Val Thr Asp Gly Phe  
 225 230 235 240  
 Thr Gly Asn Ile Phe Leu Lys Thr Ala Glu Gly Val Phe Glu Phe Leu  
 245 250 255  
 Gln Arg Ile Leu Gly Asp Lys Leu Glu Ala Asp Ile Gln Arg Arg Leu  
 260 265 270  
 Asp Tyr Thr Phe Tyr Pro Gly Ser Val Val Cys Gly Leu Ser Lys Leu  
 275 280 285  
 Val Ile Lys Cys His Gly Lys Ala Cys Gly Ser Ser Leu Phe His Gly  
 290 295 300  
 Ile Leu Gly Ser Ile Asn Leu Ala Gln Ala Arg Leu Cys Lys Arg Ile  
 305 310 315 320

Leu Ser Asn Leu Ile  
325

<210> 965

<211> 1617

<212> PRT

<213> Chlamydia pneumoniae

<400> 965

Thr	Pro	Leu	Arg	Phe	Lys	Val	Ala	Met	Val	Ala	Lys	Lys	Thr	Val	Arg
1				5					10					15	
Ser	Tyr	Arg	Ser	Phe	Ser	His	Ser	Val	Ile	Val	Ala	Ile	Leu	Ser	
			20				25					30			
Ala	Gly	Ile	Ala	Phe	Glu	Ala	His	Ser	Leu	His	Ser	Ser	Glu	Leu	Asp
		35				40					45				
Leu	Gly	Val	Phe	Asn	Lys	Gln	Phe	Glu	Glu	His	Ser	Ala	His	Val	Glu
	50				55					60					
Glu	Ala	Gln	Thr	Ser	Val	Leu	Lys	Gly	Ser	Asp	Pro	Val	Asn	Pro	Ser
65				70					75					80	
Gln	Lys	Glu	Ser	Glu	Lys	Val	Leu	Tyr	Thr	Gln	Val	Pro	Leu	Thr	Gln
			85					90					95		
Gly	Ser	Ser	Gly	Glu	Ser	Leu	Asp	Leu	Ala	Asp	Ala	Asn	Phe	Leu	Glu
			100				105						110		
His	Phe	Gln	His	Leu	Phe	Glu	Glu	Thr	Thr	Val	Phe	Gly	Ile	Asp	Gln
	115					120						125			
Lys	Leu	Val	Trp	Ser	Asp	Leu	Asp	Thr	Arg	Asn	Phe	Ser	Gln	Pro	Thr
	130				135						140				
Gln	Glu	Pro	Asp	Thr	Ser	Asn	Ala	Val	Ser	Glu	Lys	Ile	Ser	Ser	Asp
145				150					155						160
Thr	Lys	Glu	Asn	Arg	Lys	Asp	Leu	Glu	Thr	Glu	Asp	Pro	Ser	Lys	Lys
			165					170						175	
Ser	Gly	Leu	Lys	Glu	Val	Ser	Ser	Asp	Leu	Pro	Lys	Ser	Pro	Glu	Thr
		180					185						190		
Ala	Val	Ala	Ala	Ile	Ser	Glu	Asp	Leu	Glu	Ile	Ser	Glu	Asn	Ile	Ser
	195					200						205			
Ala	Arg	Asp	Pro	Leu	Gln	Gly	Leu	Ala	Phe	Phe	Tyr	Lys	Asn	Thr	Ser
	210				215						220				
Ser	Gln	Ser	Ile	Ser	Glu	Lys	Asp	Ser	Ser	Phe	Gln	Gly	Ile	Ile	Phe
225				230						235					240
Ser	Gly	Ser	Gly	Ala	Asn	Ser	Gly	Leu	Gly	Phe	Glu	Asn	Leu	Lys	Ala
			245					250						255	
Pro	Lys	Ser	Gly	Ala	Ala	Val	Tyr	Ser	Asp	Arg	Asp	Ile	Val	Phe	Glu
		260					265						270		
Asn	Leu	Val	Lys	Gly	Leu	Ser	Phe	Ile	Ser	Cys	Glu	Ser	Leu	Glu	Asp
	275				280							285			
Gly	Ser	Ala	Ala	Gly	Val	Asn	Ile	Val	Val	Thr	His	Cys	Gly	Asp	Val
	290				295						300				
Thr	Leu	Thr	Asp	Cys	Ala	Thr	Gly	Leu	Asp	Leu	Glu	Ala	Leu	Arg	Leu
305				310						315					320
Val	Lys	Asp	Phe	Ser	Arg	Gly	Gly	Ala	Val	Phe	Thr	Ala	Arg	Asn	His
			325					330						335	
Glu	Val	Gln	Asn	Asn	Leu	Ala	Gly	Gly	Ile	Leu	Ser	Val	Val	Gly	Asn
		340					345						350		
Lys	Gly	Ala	Ile	Val	Val	Glu	Lys	Asn	Ser	Ala	Glu	Lys	Ser	Asn	Gly
	355					360						365			
Gly	Ala	Phe	Ala	Cys	Gly	Ser	Phe	Val	Tyr	Ser	Asn	Asn	Glu	Asn	Thr
	370				375						380				
Ala	Leu	Trp	Lys	Glu	Asn	Gln	Ala	Leu	Ser	Gly	Gly	Ala	Ile	Ser	Ser
385				390						395					400
Ala	Ser	Asp	Ile	Asp	Ile	Gln	Gly	Asn	Cys	Ser	Ala	Ile	Glu	Phe	Ser
			405					410					415		

Gly	Asn	Gln	Ser	Leu	Ile	Ala	Leu	Gly	Glu	His	Ile	Gly	Leu	Thr	Asp	
			420					425					430			
Phe	Val	Gly	Gly	Gly	Ala	Leu	Ala	Ala	Gln	Gly	Thr	Leu	Thr	Leu	Arg	
		435					440						445			
Asn	Asn	Ala	Val	Val	Gln	Cys	Val	Lys	Asn	Thr	Ser	Lys	Thr	His	Gly	
		450				455						460				
Gly	Ala	Ile	Leu	Ala	Gly	Thr	Val	Asp	Leu	Asn	Glu	Thr	Ile	Ser	Glu	
465					470					475					480	
Val	Ala	Phe	Lys	Gln	Asn	Thr	Ala	Ala	Leu	Thr	Gly	Gly	Ala	Leu	Ser	
				485					490					495		
Ala	Asn	Asp	Lys	Val	Ile	Ile	Ala	Asn	Asn	Phe	Gly	Glu	Ile	Leu	Phe	
			500					505					510			
Glu	Gln	Asn	Glu	Val	Arg	Asn	His	Gly	Gly	Ala	Ile	Tyr	Cys	Gly	Cys	
		515					520					525				
Arg	Ser	Asn	Pro	Lys	Leu	Glu	Gln	Lys	Asp	Ser	Gly	Glu	Asn	Ile	Asn	
		530				535					540					
Ile	Ile	Gly	Asn	Ser	Gly	Ala	Ile	Thr	Phe	Leu	Lys	Asn	Lys	Ala	Ser	
545					550					555					560	
Val	Leu	Glu	Val	Met	Thr	Gln	Ala	Glu	Asp	Tyr	Ala	Gly	Gly	Gly	Ala	
				565					570					575		
Leu	Trp	Gly	His	Asn	Val	Leu	Leu	Asp	Ser	Asn	Ser	Gly	Asn	Ile	Gln	
			580					585					590			
Phe	Ile	Gly	Asn	Ile	Gly	Gly	Ser	Thr	Phe	Trp	Ile	Gly	Glu	Tyr	Val	
		595					600					605				
Gly	Gly	Gly	Ala	Ile	Leu	Ser	Thr	Asp	Arg	Val	Thr	Ile	Ser	Asn	Asn	
		610				615					620					
Ser	Gly	Asp	Val	Val	Phe	Lys	Gly	Asn	Lys	Gly	Gln	Cys	Leu	Ala	Gln	
625					630					635					640	
Lys	Tyr	Val	Ala	Pro	Gln	Glu	Thr	Ala	Pro	Val	Glu	Ser	Asp	Ala	Ser	
				645					650					655		
Ser	Thr	Asn	Lys	Asp	Glu	Lys	Ser	Leu	Asn	Ala	Cys	Ser	His	Gly	Asp	
			660					665					670			
His	Tyr	Pro	Pro	Lys	Thr	Val	Glu	Glu	Glu	Val	Pro	Pro	Ser	Leu	Leu	
		675					680					685				
Glu	Glu	His	Pro	Val	Val	Ser	Ser	Thr	Asp	Ile	Arg	Gly	Gly	Gly	Ala	
		690				695					700					
Ile	Leu	Ala	Gln	His	Ile	Phe	Ile	Thr	Asp	Asn	Thr	Gly	Asn	Leu	Arg	
705					710					715					720	
Phe	Ser	Gly	Asn	Leu	Gly	Gly	Gly	Glu	Glu	Ser	Ser	Thr	Val	Gly	Asp	
				725					730					735		
Leu	Ala	Ile	Val	Gly	Gly	Gly	Ala	Leu	Leu	Ser	Thr	Asn	Glu	Val	Asn	
			740					745					750			
Val	Cys	Ser	Asn	Gln	Asn	Val	Val	Phe	Ser	Asp	Asn	Val	Thr	Ser	Asn	
			755				760					765				
Gly	Cys	Asp	Ser	Gly	Gly	Ala	Ile	Leu	Ala	Lys	Lys	Val	Asp	Ile	Ser	
		770				775					780					
Ala	Asn	His	Ser	Val	Glu	Phe	Val	Ser	Asn	Gly	Ser	Gly	Lys	Phe	Gly	
785					790					795					800	
Gly	Ala	Val	Cys	Ala	Leu	Asn	Glu	Ser	Val	Asn	Ile	Thr	Asp	Asn	Gly	
				805					810					815		
Ser	Ala	Val	Ser	Phe	Ser	Lys	Asn	Arg	Thr	Arg	Leu	Gly	Gly	Ala	Gly	
				820					825					830		
Val	Ala	Ala	Pro	Gln	Gly	Ser	Val	Thr	Ile	Cys	Gly	Asn	Gln	Gly	Asn	
		835					840					845				
Ile	Ala	Phe	Lys	Glu	Asn	Phe	Val	Phe	Gly	Ser	Glu	Asn	Gln	Arg	Ser	
		850				855					860					
Gly	Gly	Gly	Ala	Ile	Ile	Ala	Asn	Ser	Ser	Val	Asn	Ile	Gln	Asp	Asn	
865					870					875					880	
Ala	Gly	Asp	Ile	Leu	Phe	Val	Ser	Asn	Ser	Thr	Gly	Ser	Tyr	Gly	Gly	
				885					890					895		

Ala	Ile	Phe	Val	Gly	Ser	Leu	Val	Ala	Ser	Glu	Gly	Ser	Asn	Pro	Arg		
			900					905					910				
Thr	Leu	Thr	Ile	Thr	Gly	Asn	Ser	Gly	Asp	Ile	Leu	Phe	Ala	Lys	Asn		
		915					920					925					
Ser	Thr	Gln	Thr	Ala	Ala	Ser	Leu	Ser	Glu	Lys	Asp	Ser	Phe	Gly	Gly		
	930					935					940						
Gly	Ala	Ile	Tyr	Thr	Gln	Asn	Leu	Lys	Ile	Val	Lys	Asn	Ala	Gly	Asn		
945					950					955					960		
Val	Ser	Phe	Tyr	Gly	Asn	Arg	Ala	Pro	Ser	Gly	Ala	Gly	Val	Gln	Ile		
			965					970						975			
Ala	Asp	Gly	Gly	Thr	Val	Cys	Leu	Glu	Ala	Phe	Gly	Gly	Asp	Ile	Leu		
		980						985					990				
Phe	Glu	Gly	Asn	Ile	Asn	Phe	Asp	Gly	Ser	Phe	Asn	Ala	Ile	His	Leu		
	995						1000					1005					
Cys	Gly	Asn	Asp	Ser	Lys	Ile	Val	Glu	Leu	Ser	Ala	Val	Gln	Asp	Lys		
	1010					1015					1020						
Asn	Ile	Ile	Phe	Gln	Asp	Ala	Ile	Thr	Tyr	Glu	Glu	Asn	Thr	Ile	Arg		
1025				1030						1035					1040		
Gly	Leu	Pro	Asp	Lys	Asp	Val	Ser	Pro	Leu	Ser	Ala	Pro	Ser	Leu	Ile		
			1045					1050						1055			
Phe	Asn	Ser	Lys	Pro	Gln	Asp	Asp	Ser	Ala	Gln	His	His	Glu	Gly	Thr		
		1060						1065					1070				
Ile	Arg	Phe	Ser	Arg	Gly	Val	Ser	Lys	Ile	Pro	Gln	Ile	Ala	Ala	Ile		
	1075					1080						1085					
Gln	Glu	Gly	Thr	Leu	Ala	Leu	Ser	Gln	Asn	Ala	Glu	Leu	Trp	Leu	Ala		
	1090					1095					1100						
Gly	Leu	Lys	Gln	Glu	Thr	Gly	Ser	Ser	Ile	Val	Leu	Ser	Ala	Gly	Ser		
1105				1110						1115					1120		
Ile	Leu	Arg	Ile	Phe	Asp	Ser	Gln	Val	Asp	Ser	Ser	Ala	Pro	Leu	Pro		
			1125					1130						1135			
Thr	Glu	Asn	Lys	Glu	Glu	Thr	Leu	Val	Ser	Ala	Gly	Val	Gln	Ile	Asn		
		1140						1145					1150				
Met	Ser	Ser	Pro	Thr	Pro	Asn	Lys	Asp	Lys	Ala	Val	Asp	Thr	Pro	Val		
	1155					1160						1165					
Leu	Ala	Asp	Ile	Ile	Ser	Ile	Thr	Val	Asp	Leu	Ser	Ser	Phe	Val	Pro		
	1170					1175					1180						
Glu	Gln	Asp	Gly	Thr	Leu	Pro	Leu	Pro	Pro	Glu	Ile	Ile	Ile	Pro	Lys		
1185				1190						1195					1200		
Gly	Thr	Lys	Leu	His	Ser	Asn	Ala	Ile	Asp	Leu	Lys	Ile	Ile	Asp	Pro		
			1205						1210					1215			
Thr	Asn	Val	Gly	Tyr	Glu	Asn	His	Ala	Leu	Leu	Ser	Ser	His	Lys	Asp		
		1220						1225					1230				
Ile	Pro	Leu	Ile	Ser	Leu	Lys	Thr	Ala	Glu	Gly	Met	Thr	Gly	Thr	Pro		
	1235						1240						1245				
Thr	Ala	Asp	Ala	Ser	Leu	Ser	Asn	Ile	Lys	Ile	Asp	Val	Ser	Leu	Pro		
	1250					1255					1260						
Ser	Ile	Thr	Pro	Ala	Thr	Tyr	Gly	His	Thr	Gly	Val	Trp	Ser	Glu	Ser		
1265			1270							1275					1280		
Lys	Met	Glu	Asp	Gly	Arg	Leu	Val	Val	Gly	Trp	Gln	Pro	Thr	Gly	Tyr		
			1285						1290					1295			
Lys	Leu	Asn	Pro	Glu	Lys	Gln	Gly	Ala	Leu	Val	Leu	Asn	Asn	Leu	Trp		
		1300						1305					1310				
Ser	His	Tyr	Thr	Asp	Leu	Arg	Ala	Leu	Lys	Gln	Glu	Ile	Phe	Ala	His		
	1315						1320					1325					
His	Thr	Ile	Ala	Gln	Arg	Met	Glu	Leu	Asp	Phe	Ser	Thr	Asn	Val	Trp		
	1330					1335					1340						
Gly	Ser	Gly	Leu	Gly	Val	Glu	Asp	Cys	Gln	Asn	Ile	Gly	Glu	Phe			
1345			1350						1355					1360			
Asp	Gly	Phe	Lys	His	His	Leu	Thr	Gly	Tyr	Ala	Leu	Gly	Leu	Asp	Thr		
			1365					1370					1375				

Gln Leu Val Glu Asp Phe Leu Ile Gly Gly Cys Phe Ser Gln Phe Phe  
 1380 1385 1390  
 Gly Lys Thr Glu Ser Gln Ser Tyr Lys Ala Lys Asn Asp Val Lys Ser  
 1395 1400 1405  
 Tyr Met Gly Ala Ala Tyr Ala Gly Ile Leu Ala Gly Pro Trp Leu Ile  
 1410 1415 1420  
 Lys Gly Ala Phe Val Tyr Gly Asn Ile Asn Asn Asp Leu Thr Thr Asp  
 1425 1430 1435 1440  
 Tyr Gly Thr Leu Gly Ile Ser Thr Gly Ser Trp Ile Gly Lys Gly Phe  
 1445 1450 1455  
 Ile Ala Gly Thr Ser Ile Asp Tyr Arg Tyr Ile Val Asn Pro Arg Arg  
 1460 1465 1470  
 Phe Ile Ser Ala Ile Val Ser Thr Val Val Pro Phe Val Glu Ala Glu  
 1475 1480 1485  
 Tyr Val Arg Ile Asp Leu Pro Glu Ile Ser Glu Gln Gly Lys Glu Val  
 1490 1495 1500  
 Arg Thr Phe Gln Lys Thr Arg Phe Glu Asn Val Ala Ile Pro Phe Gly  
 1505 1510 1515 1520  
 Phe Ala Leu Glu His Ala Tyr Ser Arg Gly Ser Arg Ala Glu Val Asn  
 1525 1530 1535  
 Ser Val Gln Leu Ala Tyr Val Phe Asp Val Tyr Arg Lys Gly Pro Val  
 1540 1545 1550  
 Ser Leu Ile Thr Leu Lys Asp Ala Ala Tyr Ser Trp Lys Ser Tyr Gly  
 1555 1560 1565  
 Val Asp Ile Pro Cys Lys Ala Trp Lys Ala Arg Leu Ser Asn Asn Thr  
 1570 1575 1580  
 Glu Trp Asn Ser Tyr Leu Ser Thr Tyr Leu Ala Phe Asn Tyr Glu Trp  
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 Arg Glu Asp Leu Ile Ala Tyr Asp Phe Asn Gly Gly Ile Arg Ile Ile  
 1605 1610 1615  
 Phe

<210> 966  
 <211> 504  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 966  
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 Ser Lys Met His Met Ser Asn Pro Ile Ser Leu Phe Ser Pro Ala Glu  
 20 25 30  
 Leu Ile Ala Lys Tyr Asn Leu Ile Pro Lys Thr Ser Pro Ile Tyr Pro  
 35 40 45  
 Arg Arg Thr Glu Leu Ile Ile Leu Glu Glu Asn Ala Cys Gln Thr Arg  
 50 55 60  
 Leu Thr Asn Val Ala Gln Val Leu His Pro Ser Ser Leu Phe Ser Met  
 65 70 75 80  
 Ser Lys Lys Ile Leu Asn Pro Cys Gly Cys Ser Gly Gly Pro Leu Cys  
 85 90 95  
 Trp Val Ile Leu Asn Ile Leu Ala Phe Ile Ile Thr Ser Val Leu Phe  
 100 105 110  
 Ile Ile Leu Leu Pro Val Asn Leu Ile Val Ala Gly Leu Arg Leu Phe  
 115 120 125  
 Met Pro Leu Pro Pro Lys Lys Ile Val Glu Asp Leu Ser Glu Pro Thr  
 130 135 140  
 Thr Glu Glu Thr Asn Glu Val Ile Gln Pro Phe Ile Phe Ala Leu Gln  
 145 150 155 160  
 Ala Leu Leu Phe Glu Asp Asn Lys Leu Arg Ser Phe Lys Ile Val Glu  
 165 170 175

Gln Ser Val Gly Lys Ala Pro Leu Pro Asn Pro Phe Leu Asn Arg Leu  
 180 185 190  
 Val Ala Ile Ser Pro Gln Glu Ser Gln Glu Ala Met Arg Lys Ile Pro  
 195 200 205  
 Asp Leu Cys Ser Gln Leu Lys Lys Val Leu Lys Ser Leu Gly Val Leu  
 210 215 220  
 Thr Pro Glu Trp Lys His Met Leu Lys Tyr Phe Glu Gly Leu Lys Asn  
 225 230 235 240  
 Glu His Asp Ser Asn Pro Asp Lys Lys Thr Phe Pro Ile Leu Ile Lys  
 245 250 255  
 Leu Leu Ile Glu Ala Leu Thr Gly Lys Ser Ser Leu Pro Lys Thr Pro  
 260 265 270  
 Ser Thr Lys Glu Lys Met Gln Ala Leu Phe Ile Ala Ser Ser Cys  
 275 280 285  
 Lys Thr Cys Lys Pro Thr Trp Gly Glu Val Ile Thr Arg Ser Leu Asn  
 290 295 300  
 Arg Leu Tyr Ser Ile Ala Asn Glu Gly Asp Asn Gln Leu Leu Ile Trp  
 305 310 315 320  
 Val Gln Glu Phe Lys Glu Arg Glu Leu Met Ser Ile Gln Asp Gly Asp  
 325 330 335  
 Asp Ala Glu Glu Tyr Arg Phe Ala Ala Gln Gln His Gly Glu Arg Tyr  
 340 345 350  
 Thr Glu Ala Ile Glu Gln Val Leu Arg Asn Glu Ser Ala Ala Lys Leu  
 355 360 365  
 Gln Trp His Val Ile Asn Thr Met Lys Phe Phe His Gly Lys Asn Leu  
 370 375 380  
 Gly Leu Val Thr Glu His Leu Gln Asp Thr Leu Gly Ala Leu Thr Leu  
 385 390 395 400  
 Arg Gln Thr Thr Val Asp Thr His Gln Gly Arg Glu Asp Ala Asp Leu  
 405 410 415  
 Ser Ala Ala Leu Phe Leu Asn Lys Tyr Leu Asn Ser Gly Asn Gln Leu  
 420 425 430  
 Val Asn Ser Val Phe Lys Ser Met Gln Lys Ala Asp Pro Glu Thr Lys  
 435 440 445  
 Ala Leu Ile Arg Glu Phe Ala Leu Asp Ile Leu Tyr Ala Ser Leu Arg  
 450 455 460  
 Leu Pro Gln Thr Ser Ala His Thr Glu Val Phe Ser Thr Leu Leu Met  
 465 470 475 480  
 Asp Pro Glu Thr Tyr Glu Pro Asn Lys Ala Cys Ile Ala Tyr Leu Leu  
 485 490 495  
 Tyr Val Leu Lys Ile Ile Glu Leu  
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<210> 967

<211> 615

<212> PRT

<213> Chlamydia pneumoniae

<400> 967

Lys Gly Phe Ser Phe Ser Lys Val Gly Leu Asn Met Ile Pro Ser Gly  
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 Leu Val Tyr Leu Leu Tyr Pro Leu Gly Phe Leu Ala Ser Leu Phe Phe  
 20 25 30  
 Gly Ser Ala Phe Ser Ile Gln Trp Trp Leu Ser Lys Lys Arg Lys Glu  
 35 40 45  
 Val Tyr Ala Pro Arg Ser Phe Trp Ile Leu Ser Ser Ile Gly Ala Thr  
 50 55 60  
 Leu Met Ile Val His Gly Thr Ile Gln Ser Gln Phe Pro Val Thr Val  
 65 70 75 80  
 Leu His Val Ile Asn Leu Ile Ile Tyr Leu Arg Asn Leu Asn Ile Thr  
 85 90 95

Ser Ser Arg Pro Ile Ser Phe Arg Ala Thr Leu Val Leu Met Ala Leu  
100 105 110  
Ser Val Val Phe Val Thr Leu Pro Phe Leu Tyr Val Asn Met Glu Trp  
115 120 125  
Met Ala Ser Pro Asn Ile Phe His Leu Pro Leu Pro Pro Ala Gln Leu  
130 135 140  
Ser Trp His Leu Ile Gly Cys Leu Gly Leu Ala Ile Phe Ser Gly Arg  
145 150 155 160  
Phe Leu Ile Gln Trp Phe Tyr Ile Glu Ser Asn Asn Thr Lys Asp Phe  
165 170 175  
Pro Leu Leu Phe Trp Lys Ile Gly Leu Leu Gly Gly Leu Leu Ala Leu  
180 185 190  
Val Tyr Phe Ile Arg Ile Gly Asp Pro Ile Asn Ile Leu Cys Tyr Gly  
195 200 205  
Cys Gly Leu Phe Pro Ser Ile Ala Asn Leu Arg Leu Phe Tyr Lys Glu  
210 215 220  
Gln Arg Ser Thr Pro Tyr Leu Asp Thr His Cys Phe Leu Ser Ala Gly  
225 230 235 240  
Glu Ala Ser Gly Asp Ile Leu Gly Gly Lys Leu Ile Gln Ser Ile Lys  
245 250 255  
Ser Leu Tyr Pro Asn Ile Arg Phe Trp Gly Val Gly Gly Pro Ala Met  
260 265 270  
Arg Gln Glu Gly Leu Gln Pro Ile Leu Asn Met Glu Glu Phe Gln Val  
275 280 285  
Ser Gly Phe Ala Glu Val Leu Gly Ser Leu Phe Arg Leu Tyr Arg Asn  
290 295 300  
Tyr Arg Lys Ile Leu Lys Thr Ile Leu Lys His Lys Pro Ala Thr Leu  
305 310 315 320  
Ile Phe Ile Asp Phe Pro Asp Phe His Leu Leu Ile Lys Lys Leu  
325 330 335  
Arg Lys His Gly Tyr Arg Gly Lys Ile Ile His Tyr Val Cys Pro Ser  
340 345 350  
Ile Trp Ala Trp Arg Pro Lys Arg Lys Arg Ile Leu Glu Gln His Leu  
355 360 365  
Asp Met Leu Leu Leu Ile Leu Pro Phe Glu Glu Gly Leu Phe Lys Asn  
370 375 380  
Thr Ser Leu Glu Thr Val Tyr Leu Gly His Pro Leu Val Glu Glu Ile  
385 390 395 400  
Ser Asp Tyr Lys Glu Gln Ala Ser Trp Lys Glu Lys Phe Leu Asn Ser  
405 410 415  
Asp Arg Pro Ile Val Ala Ala Phe Pro Gly Ser Arg Arg Gly Asp Ile  
420 425 430  
Ser Arg Asn Leu Arg Ile Gln Val Gln Ala Phe Leu Asn Ser Ser Leu  
435 440 445  
Ser Gln Thr His Gln Phe Val Val Ser Ser Ser Ser Ala Lys Tyr Asp  
450 455 460  
Glu Ile Ile Glu Asp Thr Leu Lys Ala Glu Gly Cys Gln His Ser Gln  
465 470 475 480  
Ile Ile Pro Met Asn Phe Arg Tyr Glu Leu Met Arg Ser Cys Asp Cys  
485 490 495  
Ala Leu Ala Lys Cys Gly Thr Ile Val Leu Glu Thr Ala Leu Asn Gln  
500 505 510  
Thr Pro Thr Ile Val Met Cys Arg Leu Arg Pro Phe Asp Thr Phe Leu  
515 520 525  
Ala Lys Tyr Ile Phe Lys Ile Leu Leu Pro Ala Tyr Ser Leu Pro Asn  
530 535 540  
Ile Ile Met Asn Ser Val Ile Phe Pro Glu Phe Ile Gly Gly Lys Lys  
545 550 555 560  
Asp Phe His Pro Glu Glu Ile Ala Thr Ala Leu Asp Leu Leu Asn Gln  
565 570 575



His Gly Ser Lys Glu Lys Gln Lys Glu Asp Cys Arg Lys Leu Cys Lys  
580 585 590  
Val Met Thr Thr Gly Gln Ile Ala Ser Glu Glu Phe Leu Lys Arg Ile  
595 600 605  
Phe Asp Thr Leu Pro Ala Val  
610 615

<210> 968  
<211> 436  
<212> PRT  
<213> Chlamydia pneumoniae

<400> 968  
Leu Leu Ile Thr Ile Ile Met Val Cys Glu Asn Asn Ile Leu Ser Gly  
1 5 10 15  
Arg Gly Leu Glu Leu Leu Lys Lys Lys Ser Asn Ile Thr Leu Thr Pro  
20 25 30  
Thr Ile Tyr Ser Val Ser Asn His Asn Ile Lys Leu Lys Asp Phe Ser  
35 40 45  
Pro His Ala Leu Ser Val Ile Lys Thr Leu Arg Lys Ala Gly Tyr Ile  
50 55 60  
Ala Tyr Ile Val Gly Gly Cys Ile Arg Asp Leu Leu Leu Asn Thr Thr  
65 70 75 80  
Pro Lys Asp Phe Asp Ile Ser Thr Ser Ala Lys Pro Glu Glu Ile Lys  
85 90 95  
Ala Ile Phe Lys Asn Cys Ile Leu Val Gly Lys Arg Phe Arg Leu Ala  
100 105 110  
His Ile Arg Phe Ser Lys Gln Ile Ile Glu Val Ser Thr Phe Arg Ser  
115 120 125  
Gly Ser Thr Asp Glu Asp Val Leu Ile Thr Lys Asp Asn Leu Trp Gly  
130 135 140  
Thr Pro Glu Glu Asp Val Leu Arg Arg Asp Phe Thr Ile Asn Gly Leu  
145 150 155 160  
Phe Tyr Asp Pro Glu His Glu Glu Ile Ile Asp Tyr Thr Gly Gly Val  
165 170 175  
Asn Asp Leu Arg Asn Arg Tyr Leu Arg Thr Ile Gly Asp Pro Phe Thr  
180 185 190  
Arg Phe Lys Gln Asp Pro Val Arg Met Leu Arg Leu Leu Lys Ile Leu  
195 200 205  
Ser Arg Ser Pro Phe Thr Val Glu Thr Gln Thr Gln Glu Ala Leu Ile  
210 215 220  
Ala Cys Arg Gln Glu Leu Ile Lys Ser Ser Gln Ala Arg Val Phe Glu  
225 230 235 240  
Glu Leu Ile Lys Met Leu Asn Ser Gly Ala Ala Lys Asn Phe Phe Gln  
245 250 255  
Leu Leu Ile Glu Asn His Leu Leu Glu Ile Leu Phe Pro Tyr Met Asp  
260 265 270  
Lys Ala Phe Arg Leu Asn Arg Ala Leu Glu Glu Gln Thr Ala Thr Tyr  
275 280 285  
Leu Lys Ala Leu Asp Asp Lys Ile Leu Lys Lys Glu Ala Glu Tyr Asp  
290 295 300  
Arg His Gln Leu Met Ala Ile Phe Leu Phe Pro Leu Val Asn Phe Asn  
305 310 315 320  
Val Arg Tyr Lys His Gln Lys His Pro Tyr Leu Ser Leu Thr Ser Val  
325 330 335  
Phe Asp Tyr Ile Lys Asn Phe Leu Glu Gln Phe Phe Ala Asp Ser Phe  
340 345 350  
Thr Ser Cys Ser Lys Lys Asn Phe Ile Leu Thr Ala Leu Ile Leu Gln  
355 360 365  
Met Gln Tyr Arg Leu Thr Pro Leu Ile Pro Thr Lys Lys Ala Leu Phe  
370 375 380

Phe Asn Lys Lys Leu Leu His His Thr Arg Phe Leu Glu Ala Leu Ser  
 385 390 395 400  
 Leu Leu Glu Ile Arg Ser Ile Val Tyr Pro Lys Leu Asp Lys Val Tyr  
 405 410 415  
 Val Ala Trp Ile Arg His His Gln Thr Leu Lys Cys Lys Lys Asp Ser  
 420 425 430  
 His Ser Gln Lys  
 435

<210> 969

<211> 485

<212> PRT

<213> Chlamydia pneumoniae

<400> 969

Phe Thr Ala Tyr Lys Phe Ala Phe Ile Cys Ala Cys Arg Ser Glu Lys  
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 Ile Arg Arg Ile Gly Ile Asp Phe Arg Arg Asn Met Gln Gln Ser Val  
 20 25 30  
 Arg Lys Leu Phe Gly Thr Asp Gly Val Arg Gly Arg Ala Asn Phe Glu  
 35 40 45  
 Pro Met Thr Val Glu Thr Thr Val Leu Leu Gly Lys Ala Val Ala Arg  
 50 55 60  
 Val Leu Arg Glu Gly Arg Ser Gly Lys His Arg Val Val Val Gly Lys  
 65 70 75 80  
 Asp Thr Arg Leu Ser Gly Tyr Met Phe Glu Asn Ala Leu Ile Ala Gly  
 85 90 95  
 Leu Asn Ser Met Gly Ile Glu Thr Leu Val Leu Gly Pro Ile Pro Thr  
 100 105 110  
 Pro Gly Val Ala Phe Ile Thr Arg Ala Tyr Arg Ala Asp Ala Gly Ile  
 115 120 125  
 Met Ile Ser Ala Ser His Asn Pro Tyr Arg Asp Asn Gly Ile Lys Ile  
 130 135 140  
 Phe Ser Leu Glu Gly Phe Lys Ile Ser Asp Val Leu Glu Gln Arg Ile  
 145 150 155 160  
 Glu Thr Met Val Ser Glu Ala Asp Phe Gly Pro Leu Pro Glu Asp His  
 165 170 175  
 Ala Val Gly Lys Asn Lys Arg Val Ile Asp Ala Met Gly Arg Tyr Val  
 180 185 190  
 Glu Phe Val Lys Ala Thr Phe Pro Lys Gly Arg Thr Leu Lys Gly Leu  
 195 200 205  
 Lys Ile Val Leu Asp Cys Ala His Gly Ala Ser Tyr Lys Val Ala Pro  
 210 215 220  
 Ser Val Phe Glu Glu Leu Asp Ala Glu Val Ile Cys Tyr Gly Cys Glu  
 225 230 235 240  
 Pro Thr Gly Ile Asn Ile Asn Glu His Cys Gly Ala Leu Phe Pro Gln  
 245 250 255  
 Val Ile Gln Lys Ala Val Ile Glu His Gln Ala His Leu Gly Ile Ala  
 260 265 270  
 Leu Asp Gly Asp Gly Asp Arg Ile Ile Met Val Asp Glu Lys Gly His  
 275 280 285  
 Ile Val Asp Gly Asp Met Ile Leu Ser Ile Cys Ala Gly Asp Leu Lys  
 290 295 300  
 Lys Arg Ser Ala Leu Pro His Asn Arg Val Val Ala Thr Ile Met Thr  
 305 310 315 320  
 Asn Phe Gly Val Leu Lys Tyr Leu Glu Gly Leu Gly Leu Gln Val Phe  
 325 330 335  
 Thr Ser Pro Val Gly Asp Arg His Val Leu His Ala Met Leu Glu His  
 340 345 350  
 Glu Val Thr Leu Gly Gly Glu Gln Ser Gly His Met Ile Phe Leu Asp  
 355 360 365

Tyr Asn Thr Thr Gly Asp Gly Ile Val Ser Ala Leu Gln Val Leu Arg  
 370 375 380  
 Ile Met Ile Glu Ser Glu Ser Met Leu Ser Asp Leu Thr Ala Pro Ile  
 385 390 395 400  
 Val Lys Ser Pro Gln Thr Leu Ile Asn Val Ala Val Arg Glu Lys Ile  
 405 410 415  
 Pro Leu Glu Thr Ile Pro Leu Ile Glu Arg Thr Leu Arg Asp Val Gln  
 420 425 430  
 Asp Ala Leu Gly Pro Ser Gly Arg Ile Leu Leu Arg Tyr Ser Gly Thr  
 435 440 445  
 Glu Asn Ile Cys Arg Val Met Val Glu Gly His Lys Lys His Gln Val  
 450 455 460  
 Asp Cys Leu Ala Lys Ala Leu Ala Asp Val Ile Asp Ala Glu Leu Gly  
 465 470 475 480  
 Thr Gly Ser Arg Glu  
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<210> 970  
 <211> 611  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 970  
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 Ser Ile Val Leu Glu Gly Leu Ala Lys Leu Glu Tyr Arg Gly Tyr Asp  
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 Ser Ala Gly Leu Ala Ala Val Val Glu Gln Glu Leu Phe Ile Arg Lys  
 35 40 45  
 Thr Val Gly Arg Val Gln Glu Leu Ser Asn Leu Phe Gln Glu Arg Glu  
 50 55 60  
 Ile Pro Thr Ala Ser Val Ile Gly His Thr Arg Trp Ala Thr His Gly  
 65 70 75 80  
 Val Pro Thr Glu Ile Asn Ala His Pro His Val Asp Glu Gly Arg Ser  
 85 90 95  
 Cys Ala Val Val His Asn Gly Ile Ile Glu Asn Phe Lys Glu Leu Arg  
 100 105 110  
 Arg Glu Leu Thr Ala Gln Gly Ile Ser Phe Ala Ser Asp Thr Asp Ser  
 115 120 125  
 Glu Ile Ile Val Gln Leu Phe Ser Leu Tyr Tyr Gln Glu Ser Gln Asp  
 130 135 140  
 Leu Val Phe Ser Phe Cys Gln Thr Leu Ala Gln Leu Arg Gly Ser Val  
 145 150 155 160  
 Ala Cys Ala Leu Ile His Lys Asp His Pro His Thr Ile Leu Cys Ala  
 165 170 175  
 Ser Gln Glu Ser Pro Leu Ile Leu Gly Leu Gly Lys Glu Glu Thr Phe  
 180 185 190  
 Ile Ala Ser Asp Ser Arg Ala Phe Phe Lys Tyr Thr Arg His Ser Gln  
 195 200 205  
 Ala Leu Ala Ser Gly Glu Phe Ala Ile Val Ser Gln Gly Lys Glu Pro  
 210 215 220  
 Glu Val Tyr Asn Leu Glu Leu Lys Lys Ile His Lys Asp Val Arg Gln  
 225 230 235 240  
 Ile Thr Cys Ser Glu Asp Ala Ser Asp Lys Ser Gly Tyr Gly Tyr Tyr  
 245 250 255  
 Met Leu Lys Glu Ile Tyr Asp Gln Pro Glu Val Leu Glu Gly Leu Ile  
 260 265 270  
 Gln Lys His Met Asp Glu Glu Gly His Ile Leu Ser Glu Phe Leu Ser  
 275 280 285  
 Asp Val Pro Ile Lys Ser Phe Lys Glu Ile Thr Ile Val Ala Cys Gly  
 290 295 300

Ser	Ser	Tyr	His	Ala	Gly	Tyr	Leu	Ala	Lys	Tyr	Ile	Ile	Glu	Ser	Leu
305					310					315					320
Val	Ser	Thr	Pro	Val	His	Ile	Glu	Val	Ala	Ser	Glu	Phe	Arg	Tyr	Arg
				325					330						335
Arg	Pro	Tyr	Ile	Gly	Lys	Asp	Thr	Leu	Gly	Ile	Leu	Ile	Ser	Gln	Ser
			340					345						350	
Gly	Glu	Thr	Ala	Asp	Thr	Leu	Ala	Ala	Leu	Lys	Glu	Leu	Arg	Arg	Arg
		355					360					365			
Asn	Ile	Ala	Tyr	Leu	Leu	Gly	Ile	Cys	Asn	Val	Pro	Glu	Ser	Ala	Ile
	370					375					380				
Ala	Leu	Gly	Val	Asp	His	Cys	Leu	Phe	Leu	Glu	Ala	Gly	Val	Glu	Ile
385					390					395					400
Gly	Val	Ala	Thr	Thr	Lys	Ala	Phe	Thr	Ser	Gln	Leu	Leu	Leu	Leu	Val
				405					410					415	
Phe	Leu	Gly	Leu	Lys	Leu	Ala	Asn	Val	His	Gly	Ala	Leu	Thr	His	Ala
			420					425					430		
Glu	Gln	Cys	Ser	Phe	Gly	Gln	Gly	Leu	Gln	Ser	Leu	Pro	Asp	Leu	Cys
		435					440					445			
Gln	Lys	Leu	Leu	Ala	Asn	Glu	Ser	Leu	His	Ser	Trp	Ala	Gln	Pro	Tyr
	450					455					460				
Ser	Tyr	Glu	Asp	Lys	Phe	Leu	Phe	Leu	Gly	Arg	Arg	Leu	Met	Tyr	Pro
465					470					475					480
Val	Val	Met	Glu	Ala	Ala	Leu	Lys	Leu	Lys	Glu	Ile	Ala	Tyr	Ile	Glu
				485					490					495	
Ala	Asn	Ala	Tyr	Pro	Gly	Gly	Glu	Met	Lys	His	Gly	Pro	Ile	Ala	Leu
			500					505					510		
Ile	Ser	Lys	Gly	Thr	Pro	Val	Ile	Ala	Phe	Cys	Gly	Asp	Asp	Ile	Val
		515					520					525			
Tyr	Glu	Lys	Met	Ile	Gly	Asn	Met	Met	Glu	Val	Lys	Ala	Arg	His	Ala
	530					535					540				
His	Val	Ile	Ala	Ile	Ala	Pro	Glu	Ser	Arg	Glu	Asp	Ile	Ala	Ala	Val
545					550					555					560
Ser	Asp	Gln	Gln	Ile	Phe	Val	Pro	Asp	Cys	His	Phe	Leu	Ala	Ala	Pro
				565					570					575	
Val	Leu	Tyr	Thr	Ile	Val	Gly	Gln	Val	Met	Ala	Tyr	Ala	Met	Ala	Leu
			580					585					590		
Ala	Lys	Gly	Met	Glu	Ile	Asp	Cys	Pro	Arg	Asn	Leu	Ala	Lys	Ser	Val
		595					600					605			
Thr	Val	Glu													
		610													

<210> 971  
 <211> 399  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 971															
Val	Tyr	Val	Met	Ser	Asn	Lys	Val	Leu	Gly	Gly	Ser	Leu	Leu	Ile	Ala
1			5						10					15	
Gly	Ser	Ala	Ile	Gly	Ala	Gly	Val	Leu	Ala	Val	Pro	Val	Leu	Thr	Ala
			20					25					30		
Lys	Gly	Gly	Phe	Phe	Pro	Ala	Thr	Phe	Leu	Tyr	Ile	Val	Ser	Trp	Leu
		35					40					45			
Phe	Ser	Met	Ala	Ser	Gly	Leu	Cys	Leu	Leu	Glu	Val	Met	Thr	Trp	Met
		50				55					60				
Lys	Glu	Ser	Lys	Asn	Pro	Val	Asn	Met	Leu	Ser	Met	Ala	Glu	Ser	Ile
65					70					75					80
Leu	Gly	His	Val	Gly	Lys	Ile	Ser	Ile	Cys	Leu	Val	Tyr	Leu	Phe	Leu
			85					90						95	
Phe	Tyr	Ser	Leu	Leu	Ile	Ala	Tyr	Phe	Cys	Glu	Gly	Gly	Asn	Ile	Leu
			100					105					110		

Cys	Arg	Val	Phe	Asn	Cys	Gln	Asn	Leu	Gly	Ile	Ser	Trp	Ile	Arg	His
	115						120					125			
Leu	Gly	Pro	Leu	Gly	Phe	Ala	Ile	Leu	Met	Gly	Pro	Ile	Ile	Met	Ala
	130					135					140				
Gly	Thr	Lys	Val	Ile	Asp	Tyr	Cys	Asn	Arg	Phe	Phe	Met	Phe	Gly	Leu
145					150					155					160
Thr	Val	Ala	Phe	Gly	Ile	Phe	Cys	Ala	Leu	Gly	Phe	Leu	Lys	Ile	Gln
				165					170					175	
Pro	Ser	Phe	Leu	Val	Arg	Ser	Ser	Trp	Leu	Thr	Thr	Ile	Asn	Ala	Phe
			180					185					190		
Pro	Val	Phe	Phe	Leu	Ala	Phe	Gly	Phe	Gln	Ser	Ile	Ile	Pro	Thr	Leu
		195					200					205			
Tyr	Tyr	Tyr	Met	Asp	Lys	Lys	Val	Gly	Asp	Val	Lys	Lys	Ala	Ile	Leu
	210					215					220				
Ile	Gly	Thr	Leu	Ile	Pro	Leu	Val	Leu	Tyr	Val	Leu	Trp	Glu	Val	Val
225					230					235					240
Val	Leu	Gly	Ala	Val	Ser	Leu	Pro	Ile	Leu	Ser	Gln	Ala	Lys	Ile	Gly
				245					250					255	
Gly	Tyr	Thr	Ala	Val	Glu	Ala	Leu	Lys	Gln	Ala	His	Arg	Ser	Trp	Ala
			260					265					270		
Phe	Tyr	Ile	Ala	Gly	Glu	Leu	Phe	Gly	Phe	Phe	Ala	Leu	Val	Ser	Ser
		275					280					285			
Phe	Val	Gly	Val	Ala	Leu	Gly	Val	Met	Asp	Phe	Leu	Ala	Asp	Gly	Leu
	290					295					300				
Lys	Trp	Asn	Lys	Lys	Ser	His	Pro	Phe	Ser	Ile	Phe	Phe	Leu	Thr	Phe
305					310					315					320
Ile	Ile	Pro	Leu	Ala	Trp	Ala	Val	Cys	Tyr	Pro	Glu	Ile	Val	Leu	Thr
				325					330					335	
Cys	Leu	Lys	Tyr	Ala	Gly	Gly	Phe	Gly	Ala	Ala	Val	Ile	Ile	Gly	Val
			340					345					350		
Phe	Pro	Thr	Leu	Ile	Val	Trp	Lys	Gly	Arg	Tyr	Gly	Lys	Gln	His	His
		355					360					365			
Arg	Glu	Lys	Gln	Leu	Val	Pro	Gly	Gly	Lys	Phe	Ala	Leu	Phe	Leu	Met
	370					375					380				
Phe	Leu	Leu	Ile	Val	Ile	Asn	Val	Val	Ser	Ile	Tyr	His	Glu	Leu	
385					390					395					

<210> 972

<211> 241

<212> PRT

<213> Chlamydia pneumoniae

<400> 972

Glu	Gly	Ser	Met	Gly	Leu	Tyr	Asp	Arg	Asp	Tyr	Ile	Gln	Asp	Ser	Arg
1				5					10					15	
Val	Gln	Gly	Thr	Phe	Ala	Ser	Arg	Val	Tyr	Gly	Trp	Met	Thr	Ala	Gly
			20					25					30		
Leu	Ile	Val	Thr	Ser	Cys	Val	Ala	Leu	Gly	Leu	Tyr	Phe	Ser	Gly	Leu
		35					40					45			
Tyr	Arg	Ser	Leu	Phe	Ser	Phe	Trp	Trp	Val	Trp	Cys	Phe	Ala	Thr	Leu
	50					55					60				
Gly	Val	Ser	Phe	Phe	Ile	Asn	Ser	Lys	Ile	Gln	Thr	Leu	Ser	Val	Ser
65					70					75					80
Ala	Val	Gly	Gly	Leu	Phe	Leu	Leu	Tyr	Ser	Thr	Leu	Glu	Gly	Met	Phe
				85					90					95	
Phe	Gly	Thr	Leu	Leu	Pro	Val	Tyr	Ala	Ala	Gln	Tyr	Gly	Gly	Gly	Val
			100					105					110		
Ile	Trp	Ala	Ala	Phe	Gly	Ser	Ala	Ala	Leu	Val	Phe	Gly	Leu	Ala	Ala
		115					120					125			
Val	Tyr	Gly	Ala	Phe	Thr	Lys	Ser	Asp	Leu	Thr	Lys	Ile	Ser	Lys	Ile
	130						135					140			

Met	Thr	Phe	Ala	Leu	Ile	Gly	Leu	Leu	Leu	Val	Thr	Leu	Val	Phe	Ala
145					150					155					160
Val	Val	Ser	Met	Phe	Val	Ser	Met	Pro	Leu	Ile	Tyr	Leu	Leu	Ile	Cys
				165					170					175	
Tyr	Leu	Gly	Leu	Val	Ile	Phe	Val	Gly	Leu	Thr	Ala	Ala	Asp	Ala	Gln
			180					185					190		
Ala	Ile	Arg	Arg	Ile	Ser	Ser	Thr	Ile	Gly	Asp	Asn	Asn	Thr	Leu	Ser
		195					200					205			
Tyr	Lys	Leu	Ser	Leu	Met	Phe	Ala	Leu	Lys	Met	Tyr	Cys	Asn	Val	Ile
	210					215					220				
Met	Val	Phe	Trp	Tyr	Leu	Gln	Ile	Phe	Ser	Ser	Ser	Gly	Asn	Arg	
225					230				235					240	
Asp															

<210> 973  
 <211> 316  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 973

Arg	Cys	Ile	Asn	Asn	Ser	Leu	Leu	Phe	Pro	Ser	Tyr	Leu	Val	Ser	Phe
1				5					10					15	
Leu	Leu	Leu	Gln	Leu	Thr	Leu	Leu	Leu	Ala	Met	Phe	Lys	Phe	Phe	Arg
			20					25					30		
Asn	Lys	Leu	Gln	Ser	Leu	Phe	Lys	Lys	Asn	Ile	Ser	Leu	Asp	Leu	Ile
		35					40					45			
Glu	Asp	Ala	Glu	Ser	Leu	Phe	Tyr	Glu	Ala	Asp	Phe	Gly	Thr	Glu	Leu
	50					55					60				
Thr	Glu	Glu	Leu	Cys	Ala	Arg	Leu	Arg	Arg	Thr	Lys	Lys	Ala	Asp	Ala
65				70					75					80	
Ser	Thr	Ile	Lys	Asp	Leu	Ile	Thr	Val	Leu	Leu	Arg	Glu	Ser	Leu	Glu
			85					90					95		
Gly	Leu	Pro	Ser	Gln	Ala	Ser	Gln	Ser	Ser	Gln	Thr	Arg	Pro	Ile	Val
		100					105						110		
Ser	Leu	Leu	Leu	Gly	Thr	Asn	Gly	Ser	Gly	Lys	Thr	Thr	Thr	Ala	Ala
	115						120					125			
Lys	Leu	Ala	His	Tyr	Tyr	Lys	Glu	Arg	Ser	Glu	Ser	Val	Met	Leu	Val
	130					135					140				
Ala	Thr	Asp	Thr	Phe	Arg	Ala	Ala	Gly	Met	Asp	Gln	Ala	Arg	Leu	Trp
145				150					155					160	
Ala	Asn	Glu	Leu	Gly	Cys	Gly	Phe	Val	Ser	Gly	Gln	Pro	Gly	Gly	Asp
			165					170						175	
Ala	Ala	Ala	Ile	Ala	Phe	Asp	Gly	Ile	Gln	Ser	Ala	Ile	Ala	Arg	Gly
		180					185						190		
Tyr	Ser	Arg	Val	Ile	Ile	Asp	Thr	Ser	Gly	Arg	Leu	His	Val	His	Gly
		195					200					205			
Asn	Leu	Met	Lys	Glu	Leu	Ser	Lys	Ile	Val	Ser	Val	Cys	Gly	Lys	Ala
	210					215					220				
Leu	Glu	Gly	Ala	Pro	His	Glu	Ile	Phe	Met	Thr	Val	Asp	Ser	Thr	Leu
225				230					235					240	
Gly	Asn	Asn	Ala	Ile	Glu	Gln	Val	Arg	Val	Phe	His	Asp	Val	Val	Pro
			245					250						255	
Leu	Ser	Gly	Leu	Ile	Phe	Thr	Lys	Val	Asp	Gly	Ser	Ala	Lys	Gly	Gly
		260					265						270		
Thr	Leu	Phe	Gln	Ile	Ala	Lys	Arg	Leu	Lys	Ile	Pro	Thr	Lys	Phe	Ile
		275				280						285			
Gly	Tyr	Gly	Glu	Ser	Leu	Lys	Asp	Leu	Asn	Glu	Phe	Asp	Leu	Asp	Leu
	290					295				300					
Phe	Leu	Asn	Lys	Leu	Phe	Pro	Glu	Val	Glu	Lys	Ile				
305					310					315					

<210> 974  
 <211> 394  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 974  
 Glu Gly Lys Ser Lys Glu Leu Phe Met His Leu His Glu Tyr Gln Ala  
 1 5 10 15  
 Lys Asp Leu Leu Ala Ser Tyr Asp Val Pro Ile Pro Pro Tyr Trp Val  
 20 25 30  
 Val Ser Ser Glu Glu Glu Gly Glu Leu Leu Ile Thr Lys Ser Gly Leu  
 35 40 45  
 Asp Ser Ala Val Val Lys Val Gln Val His Ala Gly Gly Arg Gly Lys  
 50 55 60  
 His Gly Gly Val Ile Val Ala Lys Ser Ser Ala Gly Ile Leu Gln Ala  
 65 70 75 80  
 Val Ala Lys Leu Leu Gly Met His Phe Thr Ser Asn Gln Thr Ala Asp  
 85 90 95  
 Gly Phe Leu Pro Val Glu Lys Val Leu Ile Ser Pro Leu Val Ala Ile  
 100 105 110  
 Gln Arg Glu Tyr Tyr Val Ala Val Ile Met Asp Arg Lys His Arg Cys  
 115 120 125  
 Pro Val Leu Met Leu Ser Lys Ala Gly Gly Met Asp Ile Glu Glu Val  
 130 135 140  
 Ala His Ser Ser Pro Glu Gln Ile Leu Thr Leu Pro Leu Thr Ser Tyr  
 145 150 155 160  
 Gly His Ile Tyr Ser Tyr Gln Leu Arg Gln Ala Thr Lys Phe Met Glu  
 165 170 175  
 Trp Glu Gly Glu Val Met His Gln Gly Val Gln Leu Ile Lys Lys Leu  
 180 185 190  
 Ala Lys Cys Phe Tyr Glu Asn Asp Val Ser Leu Leu Glu Ile Asn Pro  
 195 200 205  
 Leu Val Leu Thr Leu Glu Gly Glu Leu Leu Val Leu Asp Ser Lys Ile  
 210 215 220  
 Thr Ile Asp Asp Asn Ala Leu Tyr Arg His Pro Asn Leu Glu Val Leu  
 225 230 235 240  
 Tyr Asp Pro Ser Gln Glu Asn Val Arg Asp Val Leu Ala Lys Gln Ile  
 245 250 255  
 Gly Leu Ser Tyr Ile Ala Leu Ser Gly Asn Ile Gly Cys Ile Val Asn  
 260 265 270  
 Gly Ala Gly Leu Ala Met Ser Thr Leu Asp Ile Leu Lys Leu His Gly  
 275 280 285  
 Gly Asn Ala Ala Asn Phe Leu Asp Val Gly Gly Gly Ala Ser Gln Lys  
 290 295 300  
 Gln Ile Gln Glu Ala Val Ser Leu Val Leu Ser Asp Glu Ser Val Lys  
 305 310 315 320  
 Val Leu Phe Ile Asn Ile Phe Gly Gly Ile Met Asp Cys Ser Val Val  
 325 330 335  
 Ala Ser Gly Leu Val Ala Val Met Glu Thr Arg Asp Gln Val Val Pro  
 340 345 350  
 Thr Val Ile Arg Leu Glu Gly Thr Asn Val Glu Leu Gly Lys Glu Ile  
 355 360 365  
 Val Gln Gln Ser Gly Ile Pro Cys Gln Phe Val Ser Ser Met Glu Glu  
 370 375 380  
 Gly Ala Arg Arg Ala Val Glu Leu Ser Met  
 385 390

<210> 975  
 <211> 300  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 975

Val	Cys	Arg	Phe	Arg	Arg	Tyr	Met	Phe	His	Ser	Leu	Ser	Lys	Asn	Thr
1				5					10					15	
Pro	Ile	Ile	Thr	Gln	Gly	Ile	Thr	Gly	Lys	Ala	Gly	Ser	Phe	His	Thr
			20					25					30		
Glu	Gln	Cys	Leu	Ala	Tyr	Gly	Thr	Asn	Phe	Val	Gly	Gly	Val	Thr	Pro
	35					40					45				
Gly	Lys	Gly	Gly	Thr	Leu	Trp	Leu	Asp	Leu	Pro	Val	Tyr	Asp	Ser	Val
	50				55					60					
Leu	Glu	Ala	Lys	Gln	Ala	Thr	Gly	Cys	Arg	Ala	Thr	Met	Ile	Phe	Val
65				70					75						80
Pro	Pro	Pro	Tyr	Ala	Ala	Glu	Ala	Ile	Leu	Glu	Ala	Glu	Glu	Ala	Gly
				85				90						95	
Ile	Glu	Leu	Ile	Val	Cys	Ile	Thr	Glu	Gly	Ile	Pro	Val	Arg	Asp	Met
			100				105						110		
Leu	Glu	Val	Ala	Arg	Val	Met	Asp	Asn	Ser	Thr	Ser	Gln	Leu	Ile	Gly
	115					120						125			
Pro	Asn	Cys	Pro	Gly	Ile	Ile	Lys	Pro	Gly	Glu	Cys	Lys	Ile	Gly	Ile
	130				135						140				
Met	Pro	Gly	Tyr	Ile	His	Leu	Pro	Gly	Asn	Ile	Gly	Val	Val	Ser	Arg
145				150					155						160
Ser	Gly	Thr	Leu	Thr	Tyr	Glu	Ala	Val	Trp	Gln	Leu	Thr	Gln	Leu	Lys
			165				170						175		
Ile	Gly	Gln	Ser	Ile	Cys	Val	Gly	Ile	Gly	Gly	Asp	Pro	Leu	Asn	Gly
		180					185						190		
Thr	Ser	Phe	Ile	Asp	Val	Leu	Gln	Ala	Leu	Glu	Glu	Asp	Pro	Tyr	Thr
	195					200						205			
Glu	Leu	Ile	Leu	Met	Ile	Gly	Glu	Ile	Gly	Gly	Ser	Ala	Glu	Glu	Glu
	210				215						220				
Ala	Ala	Ala	Trp	Ile	Gln	Ala	His	Cys	Thr	Lys	Pro	Val	Val	Ala	Phe
225				230					235						240
Ile	Ala	Gly	Val	Thr	Ala	Pro	Lys	Gly	Lys	Arg	Met	Gly	His	Ala	Gly
			245				250						255		
Ala	Ile	Ile	Ser	Gly	Asn	Ser	Gly	Asp	Ala	Lys	Ser	Lys	Ile	Gln	Val
		260			265								270		
Leu	Arg	Glu	Ser	Gly	Val	Thr	Val	Val	Glu	Ser	Pro	Ala	His	Ile	Gly
	275				280							285			
Lys	Thr	Val	Asp	Ala	Val	Leu	Arg	Ala	Lys	Glu	Leu				
	290				295						300				

<210> 976

<211> 200

<212> PRT

<213> Chlamydia pneumoniae

<400> 976

Gly	Ile	Glu	Glu	Gln	Val	Ala	Leu	Ser	Ile	Ala	Ile	Lys	Ile	Leu	Lys
1				5					10					15	
Ile	Ile	Leu	Ala	Leu	Ile	Leu	Phe	Pro	Leu	Val	Leu	Leu	Ala	Trp	Val
		20					25						30		
Ile	Arg	Tyr	Gln	Leu	His	Ala	Asn	Phe	His	Cys	Ser	Val	Val	Pro	Phe
	35				40						45				
Pro	Gly	Phe	Ser	Val	Asn	Gln	Ala	Tyr	Lys	Cys	Ser	Glu	Ala	Lys	Ile
	50				55					60					
Glu	Glu	Met	Leu	Asp	Leu	Leu	Asp	Leu	Glu	Thr	Leu	Glu	Trp	Ser	Ser
65				70					75						80
Arg	Cys	Leu	Arg	Gln	Asp	Met	Thr	Phe	Ala	Asn	Arg	Leu	Glu	Glu	Glu
			85				90						95		
Leu	Ile	Gln	Glu	Leu	Arg	Val	Ser	Glu	Thr	Glu	Glu	Leu	Ile	Ser	Leu
		100					105						110		



Gly	Gly	Lys	Arg	Asn	Leu	Val	Arg	Leu	Leu	Leu	Thr	His	Phe	Phe	Asn
		115					120					125			
Pro	Pro	Lys	Arg	Ser	Arg	Val	Glu	Ser	Val	Gly	His	Glu	Val	Val	Phe
		130				135					140				
Pro	Val	Phe	Asp	Arg	Leu	Lys	Arg	Glu	Glu	Glu	Ile	Ile	Gly	Asp	Gly
145					150					155					160
Pro	Ile	Thr	Arg	Ser	Asn	Glu	Glu	Leu	Trp	Ala	Leu	Leu	Asp	His	Gly
				165					170					175	
Thr	Ala	Arg	Gly	Ile	His	Lys	Thr	Leu	Trp	Phe	Ser	Ile	Phe	Phe	Lys
			180					185					190		
Tyr	Leu	Thr	Gln	Ile	Glu	Leu	Phe								
		195					200								

<210> 977

<211> 369

<212> PRT

<213> Chlamydia pneumoniae

<400> 977

Ile	Leu	Met	Leu	Val	Tyr	Cys	Phe	Asp	Pro	Ser	Val	Pro	Thr	Ser	Pro
1				5					10					15	
Glu	His	Arg	Leu	Met	Ala	Ala	Leu	Asp	Arg	Trp	Phe	Phe	Leu	Gly	Gly
			20					25					30		
His	Arg	Ala	Arg	Ile	Leu	Thr	Leu	Glu	Gly	Asn	His	Tyr	Arg	Ala	Phe
		35					40					45			
Gln	Glu	Asn	Met	Ser	Ile	Ser	Thr	Val	Glu	Lys	Ile	Leu	Lys	Leu	Ile
	50					55					60				
Ser	Tyr	Leu	Leu	Ile	Pro	Ile	Val	Leu	Ile	Ala	Leu	Leu	Ile	Arg	Cys
65					70					75				80	
Phe	Leu	His	Ser	Arg	Phe	Lys	Cys	Asn	Trp	Lys	Cys	Asp	Ser	Leu	Ser
				85					90					95	
Asp	Ala	Arg	Val	Pro	His	Asp	Val	Gln	Pro	Phe	Asn	Asp	Phe	Gln	Leu
			100					105					110		
Phe	Asn	Asn	Gln	Glu	Arg	Leu	Asn	Ile	Trp	Lys	Asn	Arg	Arg	Tyr	Val
		115					120					125			
Ser	Gly	Ile	Asp	Val	Leu	Met	Val	Pro	Val	Asp	Tyr	Leu	Arg	Ser	Gln
	130					135					140				
Phe	Pro	Gly	Phe	Lys	Glu	Ile	Pro	Glu	Ala	Ile	Arg	Cys	Glu	Asn	Tyr
145					150					155				160	
Val	Ser	Asp	Gly	Gln	Phe	Ser	Glu	Glu	Ser	Lys	Thr	Ser	Tyr	Leu	Arg
				165					170					175	
Ala	Met	Leu	Thr	Asp	Ile	Val	Gly	Tyr	Ile	Leu	Ser	Leu	Asp	Glu	Thr
			180					185					190		
Tyr	Trp	Thr	Asn	Val	Ile	Leu	Lys	Ile	Arg	Ala	Met	Cys	Ile	Thr	Phe
		195					200					205			
Glu	Ser	Phe	Pro	Gly	Lys	Glu	Ala	Asp	Pro	Asn	Tyr	Ser	Pro	Arg	Val
	210					215					220				
Thr	His	His	Tyr	Phe	Asp	Glu	Ser	Trp	Lys	Ala	Leu	Ala	Arg	His	Val
225					230					235				240	
Leu	Gly	Glu	Gly	Asn	Met	Val	Asn	Arg	Leu	Asp	Glu	Ala	Leu	Ile	Arg
				245					250					255	
Thr	Glu	Lys	Pro	Gly	Lys	Glu	Gly	Glu	Cys	Ile	Thr	Lys	Gln	Phe	Leu
			260					265					270		
Lys	Asp	Tyr	Cys	Lys	Lys	His	Leu	Glu	Val	Met	Ser	Cys	Pro	Asp	Phe
		275					280					285			
Ile	Glu	Ser	Leu	Val	Asp	Glu	Lys	Ile	Arg	Glu	Phe	Arg	Cys	Pro	Ser
	290					295					300				
Ile	Leu	Asn	Ser	Ala	Val	Cys	Asp	Val	Ile	Asp	Arg	Lys	Cys	Gln	Glu
305					310					315				320	
His	Leu	Leu	Lys	Ala	Ile	Ile	Asn	Glu	Ala	Asn	Arg	Arg	Leu	Pro	Gly
				325					330					335	

Met Lys Asn Ser Ser Phe Thr Met Arg Gly Asn Gln Val Leu Phe Tyr  
 340 345 350  
 Thr Ile Phe Ser Pro Pro Lys Leu Pro Pro Ala Ala Ser Ser Val Tyr  
 355 360 365  
 Phe

<210> 978  
 <211> 358  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 978  
 Leu Tyr Ile Asn Gln Phe Ala Asn Ile Leu Lys Ser Ser Phe Leu Met  
 1 5 10 15  
 Glu Val Tyr Ser Phe Ser Pro Ser Val Arg Thr Ser Phe Gln His Arg  
 20 25 30  
 Val Met Ala Ala Leu Asp Asn Trp Phe Phe Leu Gly Gly Arg Arg Leu  
 35 40 45  
 Lys Val Val Ser Leu Asp Ser Cys Asn Ser Gly Gln Ala Cys Glu Glu  
 50 55 60  
 Tyr Val Pro Ile Ser Thr Thr Glu Lys Val Leu Lys Ile Leu Ser Tyr  
 65 70 75 80  
 Leu Leu Ile Pro Ile Val Ile Ile Ala Leu Leu Ile Arg Tyr Leu Leu  
 85 90 95  
 His Ser Asn Phe Thr Ala Lys Val Ser Gln Lys Pro Trp Leu Lys Thr  
 100 105 110  
 Leu Gln Leu Gly Ile Asp Ile Lys Ser Phe Ile Leu Pro Gly Ser His  
 115 120 125  
 Val Asn Thr Met Asp Ser Ala Thr Leu Phe Lys Ala Ile Arg Leu Glu  
 130 135 140  
 Gly Lys Arg Val Asp Val Glu Tyr His Arg Leu His Ser Ser Asp Lys  
 145 150 155 160  
 Val Val Phe Tyr Ile Pro Ala Gln Lys Leu Pro Asp Asp Leu Arg Leu  
 165 170 175  
 Thr His Trp Leu Pro Glu Lys Glu Thr Arg Lys Thr Glu Tyr Val Arg  
 180 185 190  
 His Met Leu Ala His Val Met Gly Tyr Leu Thr Ser Gln Gly Lys Glu  
 195 200 205  
 Arg Leu Gln Gln Val Val Gln Asp Ser Arg Ser Ser Thr Ser Leu Gly  
 210 215 220  
 Ala Glu Lys Val Leu Gln Tyr Arg Phe Ile Asp His Pro Gln Ser Gln  
 225 230 235 240  
 Gly Glu Phe Gln Arg Leu Leu Asn Glu Asn Ile Thr Thr Lys Gly Ser  
 245 250 255  
 Glu Asp Lys Glu Val Val Gln Ser Asp Leu Phe Asp Met Ala Phe Gln  
 260 265 270  
 Cys Trp Trp Pro Gln Phe Ile Ser Val Ile Gln Ser Pro Thr Phe Ser  
 275 280 285  
 Glu Glu Leu Val His Glu Met Ser Gln Lys Leu Asp Leu Asp Cys Ile  
 290 295 300  
 Tyr Pro Glu Asp Asp Glu Phe Glu Gln Lys Phe Leu Asn Thr Leu Leu  
 305 310 315 320  
 Lys Ala Val Leu His Gly Phe Glu Gly Ile Ser Val Ala Ser Met  
 325 330 335  
 Gly Val Ile Phe Leu Ile Cys Pro Asp Ser Leu Ala Leu Gln Ile Pro  
 340 345 350  
 Phe Leu Arg Asn Gln Lys  
 355

<210> 979  
 <211> 347  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 979  
 Lys Tyr Phe Phe Met Glu Val Tyr Ser Phe His Pro Ala Val Arg Thr  
 1 5 10 15  
 Ser Phe Gln His Arg Val Met Ala Ala Leu Asp Ala Trp Phe Phe Leu  
 20 25 30  
 Gly Gly His Arg Leu Lys Val Val Ser Leu Asp Ser Cys Asn Ser Gly  
 35 40 45  
 Trp Ala Tyr Gln Glu Leu Val Ser Ile Ser Thr Thr Glu Lys Val Leu  
 50 55 60  
 Lys Leu Leu Ser Tyr Leu Leu Val Pro Ile Val Ile Ile Ala Leu Leu  
 65 70 75 80  
 Ile Arg Cys Leu Leu His Ser Asn Phe Arg Ile Asp Val Glu Lys Glu  
 85 90 95  
 Arg Trp Leu Lys Ile Arg Glu Leu Gly Ile Asp Ile Glu Ser Cys Lys  
 100 105 110  
 Leu Pro Ser Ser Tyr Val Asn Gln Val Ser Ser Phe Ile Trp Phe Glu  
 115 120 125  
 Lys Asp Lys Ser Lys Arg Pro Arg Ile Asp Val Asp Tyr His Thr Leu  
 130 135 140  
 His Ser Lys Asp Trp Val Val Phe Pro Ile Val Phe Gln Lys Ile Pro  
 145 150 155 160  
 Lys Thr Ser Arg Phe Ser Tyr Trp Phe Ser Gln Lys Glu Thr Arg Lys  
 165 170 175  
 Arg Asp Tyr Val Arg Asn Met Leu Asp His Val Ile Gly Tyr Leu Thr  
 180 185 190  
 Ser Glu Gly Gly Glu Trp Leu Gln Tyr Ile Ser Lys Thr Ser Tyr Gln  
 195 200 205  
 Ser Ala Thr Ser Leu Asp Pro Glu Arg Val Leu Gln Tyr Cys Leu Thr  
 210 215 220  
 Asp Asn Gln Glu Leu Gln Gly Glu Val Gln Arg Leu Leu Asn Glu Glu  
 225 230 235 240  
 Ser Ala Thr Lys Ser Ser Gly Asp Lys Glu Val Leu Leu Ser His Val  
 245 250 255  
 Ser Asp Ile Ile Cys Gln Cys Trp Trp Pro Lys Phe Leu Glu Val Ile  
 260 265 270  
 Gln Ser Pro Ala Phe Ile Glu Glu Leu Val Glu Glu Val Ser Gly Lys  
 275 280 285  
 Leu Asn Leu Asp Phe Leu Cys Leu Glu Lys Ala Asn Thr Leu Asp Gln  
 290 295 300  
 Glu Leu Arg Asn Ser Leu Leu Arg Ala Val Val His His Gly Ser Glu  
 305 310 315 320  
 Gly Val Asp Ile Lys Lys Val Gly Ala Gly Leu Ile Ile Tyr Thr Glu  
 325 330 335  
 Ala Ile Gln Leu Gln Ile Pro Phe Ser Arg Ser  
 340 345

<210> 980  
 <211> 491  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 980  
 Gly Ile Asp Met Ile Thr Lys Gln Leu Arg Ser Trp Leu Ala Val Leu  
 1 5 10 15  
 Val Gly Ser Ser Leu Leu Ala Leu Pro Leu Ser Gly Gln Ala Val Gly  
 20 25 30

1180

<210> 981  
 <211> 495  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 981  
 Phe Val Met Leu Asn His Ala Lys Lys His Ala Lys Pro Tyr Val Leu  
 1 5 10 15  
 Ile Phe Phe Ser Thr Lys Asp Lys Leu Ser Tyr Cys Asp Ile Ile Phe  
 20 25 30  
 Asn Asn Cys Ser Gly Lys Pro Met Asn Leu Asp Ser Lys His Phe Asp  
 35 40 45  
 Ile Asn Ser Ala Asn Phe Leu Glu Glu Phe Ala Lys Phe Ile Ser Phe  
 50 55 60  
 Pro Ser Ile Ser Ala Asp Ser Asp His Leu Gln Asp Cys Glu Asn Cys  
 65 70 75 80  
 Ala His Phe Leu Val Asp His Val Asn Lys Ile Phe Asp Val Glu Leu  
 85 90 95  
 Trp Glu Thr Pro Gly His Pro Pro Ile Ile Tyr Ala Ser Tyr Lys Ser  
 100 105 110  
 Glu Asp Pro Leu Ser Pro Thr Leu Met Leu Tyr Asn His Tyr Asp Val  
 115 120 125  
 Gln Pro Ala Gln Leu Ser Asp Gly Trp Lys Gly Asp Pro Phe Ile Leu  
 130 135 140  
 Arg Glu Glu Asn Gly Asn Leu Tyr Ala Arg Gly Ala Ser Asp Asn Lys  
 145 150 155 160  
 Gly Gln Cys Phe Tyr Thr Leu Lys Ala Leu Gln His Tyr Tyr Glu Ser  
 165 170 175  
 Gln Gly Asn Phe Pro Leu Asn Ile Ile Trp Leu Ile Glu Gly Glu Glu  
 180 185 190  
 Glu Ser Gly Ser Leu Ala Leu Phe Thr Trp Leu Glu Lys Lys Lys Glu  
 195 200 205  
 Ala Leu Arg Ala Asp Tyr Leu Leu Ile Val Asp Gly Gly Phe Leu Ser  
 210 215 220  
 Glu Lys His Pro Tyr Val Ser Ile Gly Ala Arg Gly Ile Val Ser Met  
 225 230 235 240  
 Lys Ile Ser Leu Glu Glu Gly Asn Lys Asp Met His Ser Gly Val Leu  
 245 250 255  
 Gly Gly Ile Ala Tyr Asn Thr Asn Arg Ala Leu Ser Glu Ile Leu Ser  
 260 265 270  
 Ser Leu His His Pro Asp Asn Ser Ile Ala Ile Glu Gly Phe Tyr Asp  
 275 280 285  
 Asp Leu Ala Leu Pro Ser Asp Ser Asp Arg Pro Asp Leu Pro Lys Ser  
 290 295 300  
 Asp Thr Leu Arg Glu Cys Glu Glu Asn Leu Gly Phe Arg Pro Gln Gly  
 305 310 315 320  
 Tyr Glu Ala Ser Tyr Ser Pro Glu Glu Ser Ala Leu Arg Pro Thr Val  
 325 330 335  
 Glu Ile Asn Gly Ile Ser Gly Gly Tyr Thr Gly Pro Gly Phe Lys Thr  
 340 345 350  
 Val Ile Pro Tyr Arg Ala Thr Ala Tyr Leu Ser Cys Arg Leu Val Pro  
 355 360 365  
 Asn Gln Asp Pro Asp Lys Ala Ala His Gln Val Ile His His Leu Lys  
 370 375 380  
 Gln Gln Val Pro Ser Ser Leu Lys Phe Ser Tyr Glu Ile Leu Pro Gly  
 385 390 395 400  
 Gly Ser Arg Gly Trp Arg Ser Ser Ala Asn Leu Pro Ile Val Lys Val  
 405 410 415  
 Leu Gln Glu Ile Tyr Ser Asp Leu Tyr Asn Glu Glu Cys Leu Arg Leu  
 420 425 430

Val	Met	Pro	Ala	Thr	Ile	Pro	Ile	Gly	Pro	Leu	Leu	Gly	Glu	Ala	Ala
		435					440					445			
Gln	Thr	Ser	Pro	Ile	Ile	Cys	Gly	Thr	Ser	Tyr	Leu	Ser	Asp	Asp	Ile
	450					455					460				
His	Ala	Ala	Glu	Glu	His	Phe	Ser	Met	Asp	Gln	Leu	Lys	Lys	Gly	Phe
465					470					475					480
Leu	Ser	Ile	Cys	Gln	Leu	Leu	Asp	Lys	Leu	Pro	Lys	Ile	Lys	Glu	
				485					490					495	

<210> 982

<211> 978

<212> PRT

<213> Chlamydia pneumoniae

<400> 982

Val	Thr	Glu	Ser	Met	Lys	Ala	Gly	Asp	Thr	Tyr	Arg	Asn	Phe	Ile	Ile
1				5					10					15	
Lys	Ser	Cys	Lys	Asp	Leu	Pro	Glu	Ile	Glu	Ser	Lys	Leu	Leu	Glu	Ala
			20					25					30		
Glu	His	Lys	Pro	Thr	Gly	Ala	Ser	Ile	Met	Met	Ile	Val	Asn	Asn	Asp
		35				40						45			
Glu	Glu	Asn	Val	Phe	Asn	Ile	Cys	Phe	Arg	Thr	Cys	Pro	Gln	Thr	Ser
		50				55					60				
Asn	Gly	Val	Ala	His	Val	Leu	Glu	His	Met	Val	Leu	Cys	Gly	Ser	Glu
65					70					75					80
Asn	Tyr	Pro	Val	Arg	Asp	Pro	Phe	Phe	Ser	Met	Thr	Arg	Arg	Ser	Leu
				85					90					95	
Asn	Thr	Phe	Ile	Asn	Ala	Phe	Thr	Gly	Pro	Asp	Phe	Thr	Cys	Tyr	Pro
			100					105					110		
Ala	Ala	Ser	Gln	Ile	Pro	Glu	Asp	Phe	Tyr	Asn	Leu	Leu	Ser	Val	Tyr
		115					120					125			
Ile	Asp	Ala	Val	Phe	His	Pro	Leu	Leu	Thr	Lys	Gln	Ser	Phe	Leu	Gln
	130					135					140				
Glu	Ala	Trp	Arg	Tyr	Glu	Phe	Asn	Ser	Glu	Asn	His	Leu	Cys	Tyr	Thr
145					150					155					160
Gly	Val	Val	Phe	Asn	Glu	Met	Lys	Gly	Ala	Met	Met	Ser	Gly	Glu	Ala
			165					170						175	
Arg	Leu	Ser	Glu	Ala	Leu	Asn	Ala	Ala	Ile	Phe	Pro	Ser	Val	Thr	Tyr
			180					185					190		
Gly	Val	Asn	Ser	Gly	Gly	Glu	Pro	Arg	Glu	Ile	Val	Thr	Leu	Ser	His
	195					200						205			
Glu	Asp	Val	Arg	Ala	Phe	His	Gln	Ser	Gln	Tyr	Ser	Ile	Asn	Arg	Cys
	210					215					220				
Leu	Phe	Tyr	Phe	Tyr	Gly	Asn	Ile	Lys	Pro	Ser	Arg	His	Leu	Asp	Phe
225					230					235					240
Leu	Glu	Glu	Lys	Leu	Leu	Arg	Gln	Ala	Thr	Lys	Leu	Glu	Lys	Gln	Ala
			245						250					255	
Val	Ser	Val	Pro	Leu	Gln	Lys	Arg	Phe	Lys	Glu	Pro	Val	Arg	Asn	Ile
			260					265					270		
Leu	Thr	Tyr	Pro	Val	Asp	His	Gln	Glu	Glu	Asp	Lys	Val	Leu	Phe	Gly
	275						280					285			
Ile	Ser	Trp	Leu	Thr	Cys	Ser	Ile	Leu	Glu	Gln	Gln	Glu	Leu	Leu	Ala
	290					295					300				
Leu	His	Val	Leu	Glu	Ile	Ile	Leu	Met	Gly	Thr	Asp	Ala	Ser	Pro	Leu
305					310					315					320
Lys	Ser	Arg	Leu	Leu	Lys	Ser	Gly	Phe	Cys	Lys	Gln	Thr	Glu	Met	Ser
			325						330					335	
Ile	Glu	Asn	Asp	Ile	Arg	Glu	Ile	Pro	Met	Thr	Leu	Val	Cys	Lys	Gly
			340					345					350		
Cys	Ser	Pro	Ala	Gly	Ala	Gln	Lys	Leu	Glu	Ala	Leu	Ile	Phe	Ala	Ser
		355					360					365			

Leu	Glu	Glu	Ile	Ile	Arg	Glu	Gly	Ile	Ser	Glu	Asn	Ile	Val	Glu	Gly
370						375				380					
Ala	Val	His	Gln	Leu	Glu	Leu	Ser	Arg	Lys	Glu	Ile	Thr	Gly	Tyr	Ser
385					390					395					400
Leu	Pro	Tyr	Gly	Leu	Ser	Leu	Phe	Phe	Arg	Ser	Gly	Leu	Leu	Lys	Gln
				405					410					415	
His	Gly	Gly	Ser	Ala	Glu	Asp	Gly	Leu	Arg	Ile	His	Ser	Leu	Phe	Ser
				420					425					430	
Glu	Leu	Arg	Asn	Ser	Leu	Lys	Asn	Ser	Asp	Tyr	Leu	Ala	Lys	Leu	Ile
									440				445		
Arg	Lys	Tyr	Phe	Leu	Asp	Asn	Pro	His	Phe	Ala	Arg	Val	Ile	Leu	Leu
Pro	Asp	Thr	Glu	Leu	Val	Ala	Lys	Asp	Asn	Lys	Asp	Glu	Gln	Gln	Leu
465					470					475					480
Leu	Leu	Ser	Val	Ser	Glu	Lys	Leu	Thr	Asp	Glu	Asn	Lys	Glu	Lys	Ile
				485						490					495
Gln	Gln	Asn	Val	Arg	Glu	Leu	Thr	Glu	Ser	Gln	Glu	Gln	Lys	Glu	Asp
					500					505				510	
Leu	Asn	Gly	Ile	Leu	Pro	Asn	Leu	Ala	Leu	Asp	Lys	Val	Pro	Thr	Ser
Gly	Lys	Glu	Phe	Pro	Leu	Ile	Lys	Glu	Gly	Leu	Ser	Gln	Gly	Glu	Val
Leu	His	His	Glu	Cys	Phe	Thr	Asn	Asp	Ile	Val	Phe	Ile	Asp	Val	Val
545					550					555					560
Leu	Asp	Ile	Pro	Pro	Leu	Ser	Gly	Glu	Glu	Leu	Pro	Trp	Leu	Arg	Leu
					565					570					575
Leu	Val	Phe	Leu	Met	Leu	Gln	Leu	Gly	Cys	Gly	Gly	Arg	Ser	Tyr	Lys
				580						585				590	
Glu	His	Leu	Glu	Phe	Leu	Leu	Glu	His	Thr	Gly	Gly	Val	Asp	Val	Ser
Tyr	Asp	Phe	Ser	Pro	His	Ala	Asn	Lys	Asn	Ser	Phe	Leu	Ser	Pro	Ser
Val	Ser	Ile	Arg	Gly	Lys	Ala	Leu	Ser	Ser	Lys	Ser	Glu	Lys	Leu	Cys
625					630					635					640
Gly	Ile	Val	Ser	Asp	Met	Leu	Thr	Ser	Val	Asp	Phe	Thr	Asp	Ile	Pro
					645					650					655
Arg	Ile	Arg	Glu	Leu	Leu	Met	Gln	His	Asn	Glu	Ala	Leu	Thr	Asn	Ser
				660						665					670
Val	Arg	Asn	Ser	Pro	Met	Ser	Tyr	Ala	Val	Ser	Met	Ala	Cys	Ser	Gly
Asn	Ser	Ile	Thr	Gly	Ala	Met	Ser	Tyr	Leu	Thr	Thr	Gly	Leu	Pro	Tyr
Val	Lys	Lys	Ile	Arg	Glu	Leu	Thr	Lys	Asn	Phe	Asp	Gln	Asn	Ile	Asp
705					710					715					720
Glu	Ala	Val	Val	Ile	Leu	Gln	Arg	Leu	Tyr	Thr	Lys	Cys	Phe	Ser	Gly

Phe Tyr Cys Tyr Ser Tyr Arg Asp Pro Glu Ile Ala Thr Thr Tyr Lys  
 850 855 860  
 Thr Phe Leu Lys Gly Val Ser Glu Ile Ala Ser Gly Asn Phe Thr Lys  
 865 870 875 880  
 Glu Asp Ile Tyr Glu Gly Ala Leu Gly Val Val Gln Gly Leu Asp Met  
 885 890 895  
 Pro Val Ala Pro Gly Ser Arg Ala Ser Val Ala Phe Tyr Arg Leu Lys  
 900 905 910  
 Ser Gly Arg Ile Pro Val Leu Arg Gln Ala Phe Arg Arg Ser Val Leu  
 915 920 925  
 Glu Val Thr Lys Glu His Ile Cys Met Val Met Asp Lys Tyr Leu Glu  
 930 935 940  
 Ser Thr Val Gln Glu Thr Thr Leu Ile Ser Phe Ala Gly Glu Glu Met  
 945 950 955 960  
 Leu Arg Asn Asn Val Leu Thr Leu Asp Lys Asp Phe Pro Ile Val Pro  
 965 970 975  
 Ala Ile

<210> 983  
 <211> 418  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 983  
 Lys Lys Glu Leu Ala Ser Val Met Asn Leu Pro Val Ser Leu Ala Cys  
 1 5 10 15  
 Leu Leu Leu Ser Gly Cys Val Phe Phe Leu Gly Val Phe Val Ser Ser  
 20 25 30  
 Ser Leu Tyr Ala Arg Lys Lys Arg Ala Phe Leu Glu Lys Ile Gln Lys  
 35 40 45  
 Leu Glu His Glu Asn Gln Leu Leu Gln Thr Ser Leu Asn Leu Ser Arg  
 50 55 60  
 His Gln Glu Gln Leu Ile Glu Asp Phe Ser Asn Arg Leu Ala Leu Ser  
 65 70 75 80  
 Ser His Lys Leu Ile Lys Asp Met Lys Glu Ala Gln Asn Tyr Phe  
 85 90 95  
 Gly Asp Thr Ser Lys Ser Phe Gln Ser Ile Leu Ser Pro Ile Gln Thr  
 100 105 110  
 Thr Leu Thr Thr Phe Lys Gln Ser Leu Glu Thr Phe Glu Thr Lys His  
 115 120 125  
 Ala Glu Asp Arg Gly Arg Leu Lys Glu Gln Ile Ser Gln Leu Leu Ala  
 130 135 140  
 Val Glu Lys Lys Leu Glu His Glu Thr His Val Leu Thr Asp Ile Leu  
 145 150 155 160  
 Lys His Pro Gly Ser Arg Gly Arg Trp Gly Glu Ile Gln Leu Glu Arg  
 165 170 175  
 Ile Leu Glu Leu Ala Gly Met Leu Lys Tyr Cys Asp Tyr Asp Ser Gln  
 180 185 190  
 Thr Thr Ser Ala Gln Gly Ala Phe Arg Ala Asp Ile Ile Ile Arg Leu  
 195 200 205  
 Pro Gln Asp Arg Cys Leu Ile Ile Asp Ala Lys Ala Pro Ile Ser Asp  
 210 215 220  
 Ser Tyr Phe Ser Val Glu Glu Ile Asp Lys Gly Asp Leu Val Asp Lys  
 225 230 235 240  
 Ile Lys Glu His Ile Lys Thr Leu Lys Ser Lys Ser Tyr Trp Glu Lys  
 245 250 255  
 Phe His Gln Ser Pro Glu Tyr Val Ile Leu Phe Leu Pro Gly Glu Ser  
 260 265 270  
 Leu Phe Asn Asp Ala Ile Arg Leu Ala Pro Glu Leu Met Glu Ile Gly  
 275 280 285



Ala	Ser	Ser	Asn	Val	Ile	Leu	Ser	Ser	Pro	Leu	Thr	Leu	Leu	Ala	Leu
290						295					300				
Leu	Lys	Thr	Ile	Ala	Tyr	Met	Trp	Lys	Gln	Glu	Asn	Leu	Gln	Lys	Gln
305					310					315					320
Ile	Gln	Glu	Val	Ser	Leu	Leu	Gly	Lys	Glu	Leu	His	Arg	Arg	Leu	Gln
				325					330						335
Val	Val	Phe	Thr	His	Phe	Gln	Lys	Ile	Gly	Lys	Asn	Leu	Asn	Gln	Thr
			340					345					350		
Val	Gln	Ser	Tyr	Asn	Asp	Met	Thr	Ser	Ser	Phe	Gln	Tyr	Arg	Val	Leu
		355					360					365			
Pro	Thr	Leu	Arg	Lys	Phe	Glu	Gly	Leu	Glu	Thr	Ser	Ser	Ser	His	Gln
	370					375					380				
Ile	Glu	Glu	Pro	Thr	Pro	Ile	Glu	Ser	Leu	Ala	Thr	Ser	Phe	Pro	His
385					390					395					400
Thr	Cys	Asp	Ile	Asp	Thr	Asn	Leu	Ala	Val	Ile	Glu	Ser	Leu	Glu	Lys
				405					410					415	
Gln	Asp														

<210> 984  
 <211> 280  
 <212> PRT  
 <213> Chlamydia pneumoniae

Lys	Asn	Pro	Leu	Cys	Tyr	Glu	Gln	Lys	Lys	Leu	Trp	Gln	Ile	Asp	Met
1				5					10					15	
Ala	Gly	Leu	Asp	Leu	Glu	Ala	Arg	Gly	Lys	Arg	Arg	Val	Val	Thr	Pro
			20					25					30		
Asn	Ala	Ile	Thr	Ala	Phe	Gly	Leu	Cys	Cys	Gly	Leu	Phe	Ile	Ile	Phe
		35					40					45			
Lys	Ser	Val	Leu	Arg	Thr	Ser	Ser	Ser	Val	Glu	Leu	Phe	His	Arg	Leu
	50					55				60					
Gln	Gly	Leu	Ser	Leu	Leu	Leu	Ile	Ser	Ala	Met	Ile	Ala	Asp	Phe	Ser
65					70					75					80
Asp	Gly	Ala	Ile	Ala	Arg	Ile	Met	Lys	Ala	Glu	Ser	Ala	Phe	Gly	Ala
				85					90					95	
Gln	Phe	Asp	Ser	Leu	Ser	Asp	Ala	Val	Thr	Phe	Gly	Ile	Ala	Pro	Pro
			100					105					110		
Leu	Ile	Ala	Ile	Lys	Ser	Leu	Asp	Gly	Ile	Tyr	Val	Gly	Asn	Phe	Phe
		115					120					125			
Ser	Ser	Leu	Leu	Leu	Ile	Thr	Ser	Ile	Ile	Tyr	Ser	Leu	Cys	Gly	Val
	130					135					140				
Leu	Arg	Leu	Val	Arg	Tyr	Asn	Leu	Phe	Ser	Gln	Lys	Thr	Val	Asp	Val
145					150					155					160
Ser	Lys	Pro	Tyr	Cys	Phe	Ile	Gly	Leu	Pro	Ile	Pro	Ala	Ala	Ala	Ala
				165					170					175	
Ser	Ile	Val	Ser	Leu	Ala	Leu	Phe	Leu	Ala	Ser	Asp	Phe	Phe	Pro	Asp
			180					185					190		
Leu	Pro	Ala	Gln	Leu	Arg	Val	Gly	Leu	Leu	Ser	Phe	Ala	Leu	Leu	Phe
		195					200					205			
Ile	Gly	Gly	Leu	Met	Ile	Ser	Pro	Trp	Lys	Phe	Pro	Gly	Val	Lys	His
	210					215					220				
Phe	Arg	Phe	Asn	Val	Ser	Phe	Leu	Leu	Val	Val	Thr	Ile	Gly	Leu	
225				230						235					240
Ala	Ala	Cys	Leu	Phe	Phe	Ser	Gly	Leu	Val	Asp	His	Phe	Val	Glu	Val
				245					250					255	
Phe	Phe	Leu	Val	Ser	Trp	Leu	Tyr	Thr	Leu	Val	Gly	Phe	Pro	Ile	Phe
			260					265					270		
Ser	Ile	Ile	Tyr	Arg	Lys	Lys	Ser								
		275					280								

<210> 985  
 <211> 1047  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 985  
 Gly Lys Val Met Val Glu Val Glu Glu Lys His Tyr Thr Ile Val Lys  
 1 5 10 15  
 Arg Asn Gly Met Phe Val Pro Phe Asn Gln Asp Arg Ile Phe Gln Ala  
 20 25 30  
 Leu Glu Ala Ala Phe Arg Asp Thr Arg Ser Leu Glu Thr Ser Ser Pro  
 35 40 45  
 Leu Pro Lys Asp Leu Glu Glu Ser Ile Ala Gln Ile Thr His Lys Val  
 50 55 60  
 Val Lys Glu Val Leu Ala Lys Ile Ser Glu Gly Gln Val Val Thr Val  
 65 70 75 80  
 Glu Arg Ile Gln Asp Leu Val Glu Ser Gln Leu Tyr Ile Ser Gly Leu  
 85 90 95  
 Gln Asp Val Ala Arg Asp Tyr Ile Val Tyr Arg Asp Gln Arg Lys Ala  
 100 105 110  
 Glu Arg Gly Asn Ser Ser Ser Ile Ile Ala Ile Arg Arg Asp Gly  
 115 120 125  
 Gly Ser Ala Lys Phe Asn Pro Met Lys Ile Ser Ala Ala Leu Glu Lys  
 130 135 140  
 Ala Phe Arg Ala Thr Leu Gln Ile Asn Gly Met Thr Pro Pro Ala Thr  
 145 150 155 160  
 Leu Ser Glu Ile Asn Asp Leu Thr Leu Arg Ile Val Glu Asp Val Leu  
 165 170 175  
 Ser Leu His Gly Glu Glu Ala Ile Asn Leu Glu Glu Ile Gln Asp Ile  
 180 185 190  
 Val Glu Lys Gln Leu Met Val Ala Gly Tyr Tyr Asp Val Ala Lys Asn  
 195 200 205  
 Tyr Ile Leu Tyr Arg Glu Ala Arg Ala Arg Ala Arg Ala Asn Lys Asp  
 210 215 220  
 Gln Asp Gly Gln Glu Glu Phe Val Pro Gln Glu Glu Thr Tyr Val Val  
 225 230 235 240  
 Gln Lys Glu Asp Gly Thr Thr Tyr Leu Leu Arg Lys Thr Asp Leu Glu  
 245 250 255  
 Lys Arg Phe Ser Trp Ala Cys Lys Arg Phe Pro Lys Thr Thr Asp Ser  
 260 265 270  
 Gln Leu Leu Ala Asp Met Ala Phe Met Asn Leu Tyr Ser Gly Ile Lys  
 275 280 285  
 Glu Asp Glu Val Thr Thr Ala Cys Ile Met Ala Ala Arg Ala Asn Ile  
 290 295 300  
 Glu Arg Glu Pro Asp Tyr Ala Phe Ile Ala Ala Glu Leu Leu Thr Ser  
 305 310 315 320  
 Ser Leu Tyr Glu Glu Thr Leu Gly Cys Ser Ser Gln Asp Pro Asn Leu  
 325 330 335  
 Ser Glu Ile His Lys Lys His Phe Lys Glu Tyr Ile Leu Asn Gly Glu  
 340 345 350  
 Glu Tyr Arg Leu Asn Pro Gln Leu Lys Asp Tyr Asp Leu Asp Ala Leu  
 355 360 365  
 Ser Glu Val Leu Asp Leu Ser Arg Asp Gln Gln Phe Ser Tyr Met Gly  
 370 375 380  
 Val Gln Asn Leu Tyr Asp Arg Tyr Phe Asn Leu His Glu Gly Arg Arg  
 385 390 395 400  
 Leu Glu Thr Ala Gln Ile Phe Trp Met Arg Val Ser Met Gly Leu Ala  
 405 410 415  
 Leu Asn Glu Gly Glu Gln Lys Asn Phe Trp Ala Ile Thr Phe Tyr Asn  
 420 425 430

Leu	Leu	Ser	Thr	Phe	Arg	Tyr	Thr	Pro	Ala	Thr	Pro	Thr	Leu	Phe	Asn
		435					440					445			
Ser	Gly	Met	Arg	His	Ser	Gln	Leu	Ser	Ser	Cys	Tyr	Leu	Ser	Thr	Val
	450					455					460				
Lys	Asp	Asp	Leu	Ser	His	Ile	Tyr	Lys	Val	Ile	Ser	Asp	Asn	Ala	Leu
465					470					475					480
Leu	Ser	Lys	Trp	Ala	Gly	Gly	Ile	Gly	Asn	Asp	Trp	Thr	Asp	Val	Arg
				485					490					495	
Ala	Thr	Gly	Ala	Val	Ile	Lys	Gly	Thr	Asn	Gly	Lys	Ser	Gln	Gly	Val
			500					505					510		
Ile	Pro	Phe	Ile	Lys	Val	Ala	Asn	Asp	Thr	Ala	Ile	Ala	Val	Asn	Gln
		515					520					525			
Gly	Gly	Lys	Arg	Lys	Gly	Ala	Met	Cys	Val	Tyr	Leu	Glu	Asn	Trp	His
	530					535					540				
Leu	Asp	Tyr	Glu	Asp	Phe	Leu	Glu	Leu	Arg	Lys	Asn	Thr	Gly	Asp	Glu
545					550					555					560
Arg	Arg	Arg	Thr	His	Asp	Ile	Asn	Thr	Ala	Ser	Trp	Ile	Pro	Asp	Leu
				565					570					575	
Phe	Phe	Lys	Arg	Leu	Glu	Lys	Lys	Gly	Met	Trp	Thr	Leu	Phe	Ser	Pro
			580					585					590		
Asp	Asp	Val	Pro	Gly	Leu	His	Glu	Ala	Tyr	Gly	Leu	Glu	Phe	Glu	Lys
		595					600					605			
Leu	Tyr	Glu	Glu	Tyr	Glu	Arg	Lys	Val	Glu	Ser	Gly	Glu	Ile	Arg	Leu
	610					615					620				
Tyr	Lys	Lys	Val	Glu	Ala	Glu	Val	Leu	Trp	Arg	Lys	Met	Leu	Ser	Met
625					630					635					640
Leu	Tyr	Glu	Thr	Gly	His	Pro	Trp	Ile	Thr	Phe	Lys	Asp	Pro	Ser	Asn
				645					650					655	
Ile	Arg	Ser	Asn	Gln	Asp	His	Val	Gly	Val	Val	Arg	Cys	Ser	Asn	Leu
			660					665					670		
Cys	Thr	Glu	Ile	Leu	Leu	Asn	Cys	Ser	Glu	Ser	Glu	Thr	Ala	Val	Cys
		675					680					685			
Asn	Leu	Gly	Ser	Ile	Asn	Leu	Val	Glu	His	Ile	Arg	Asn	Asp	Lys	Leu
	690					695					700				
Asp	Glu	Glu	Lys	Leu	Lys	Glu	Thr	Ile	Ser	Ile	Ala	Ile	Arg	Ile	Leu
705					710					715					720
Asp	Asn	Val	Ile	Asp	Leu	Asn	Phe	Tyr	Pro	Thr	Pro	Glu	Ala	Lys	Gln
				725					730					735	
Ala	Asn	Leu	Thr	His	Arg	Ala	Val	Gly	Leu	Gly	Val	Met	Gly	Phe	Gln
			740					745					750		
Asp	Val	Leu	Tyr	Glu	Leu	Asn	Ile	Ser	Tyr	Ala	Ser	Gln	Glu	Ala	Val
		755					760					765			
Glu	Phe	Ser	Asp	Glu	Cys	Ser	Glu	Ile	Ile	Ala	Tyr	Tyr	Ala	Ile	Leu
	770					775					780				
Ala	Ser	Ser	Leu	Leu	Ala	Lys	Glu	Arg	Gly	Thr	Tyr	Ala	Ser	Tyr	Ser
785					790					795					800
Gly	Ser	Lys	Trp	Asp	Arg	Gly	Tyr	Leu	Pro	Leu	Asp	Thr	Ile	Glu	Leu
				805					810					815	
Leu	Lys	Glu	Thr	Arg	Gly	Glu	His	Asn	Val	Leu	Val	Asp	Thr	Ser	Ser
			820					825					830		
Lys	Lys	Asp	Trp	Thr	Pro	Val	Arg	Asp	Thr	Ile	Gln	Lys	Tyr	Gly	Met
		835					840					845			
Arg	Asn	Ser	Gln	Val	Met	Ala	Ile	Ala	Pro	Thr	Ala	Thr	Ile	Ser	Asn
	850					855					860				
Ile	Ile	Gly	Val	Thr	Gln	Ser	Ile	Glu	Pro	Met	Tyr	Lys	His	Leu	Phe
865					870					875					880
Val	Lys	Ser	Asn	Leu	Ser	Gly	Glu	Phe	Thr	Ile	Pro	Asn	Thr	Tyr	Leu
				885					890					895	
Ile	Lys	Lys	Leu	Lys	Glu	Leu	Gly	Leu	Trp	Asp	Ala	Glu	Met	Leu	Asp
			900					905					910		

Asp Leu Lys Tyr Phe Asp Gly Ser Leu Leu Glu Ile Glu Arg Ile Pro  
 915 920 925  
 Asn His Leu Lys Lys Leu Phe Leu Thr Ala Phe Glu Ile Glu Pro Glu  
 930 935 940  
 Trp Ile Ile Glu Cys Thr Ser Arg Arg Gln Lys Trp Ile Asp Met Gly  
 945 950 955 960  
 Val Ser Leu Asn Leu Tyr Leu Ala Glu Pro Asp Gly Lys Lys Leu Ser  
 965 970 975  
 Asn Met Tyr Leu Thr Ala Trp Lys Lys Gly Leu Lys Thr Thr Tyr Tyr  
 980 985 990  
 Leu Arg Ser Gln Ala Ala Thr Ser Val Glu Lys Ser Phe Ile Asp Ile  
 995 1000 1005  
 Asn Lys Arg Gly Ile Gln Pro Arg Trp Met Lys Asn Lys Ser Ala Ser  
 1010 1015 1020  
 Thr Ser Ile Val Val Glu Arg Lys Thr Thr Pro Val Cys Ser Met Glu  
 1025 1030 1035 1040  
 Glu Gly Cys Glu Ser Cys Gln  
 1045

<210> 986

<211> 380

<212> PRT

<213> Chlamydia pneumoniae

<400> 986

Ile Ser Val His Lys Tyr Cys Gly Arg Lys Lys Asn Asn Pro Arg Leu  
 1 5 10 15  
 Phe Asn Gly Arg Arg Leu Arg Ile Leu Ser Ile Thr Glu Lys Arg Gly  
 20 25 30  
 Ala Lys Met Glu Ala Asp Ile Leu Asp Gly Lys Leu Lys Arg Val Glu  
 35 40 45  
 Val Ser Lys Lys Gly Leu Val Asn Cys Asn Gln Val Asp Val Asn Gln  
 50 55 60  
 Leu Val Pro Ile Lys Tyr Lys Trp Ala Trp Glu His Tyr Leu Asn Gly  
 65 70 75 80  
 Cys Ala Asn Asn Trp Leu Pro Thr Glu Val Pro Met Ala Arg Asp Ile  
 85 90 95  
 Glu Leu Trp Lys Ser Asp Glu Leu Ser Glu Asp Glu Arg Arg Val Ile  
 100 105 110  
 Leu Leu Asn Leu Gly Phe Phe Ser Thr Ala Glu Ser Leu Val Gly Asn  
 115 120 125  
 Asn Ile Val Leu Ala Ile Phe Lys His Ile Thr Asn Pro Glu Ala Arg  
 130 135 140  
 Gln Tyr Leu Leu Arg Gln Ala Phe Glu Glu Ala Val His Thr His Thr  
 145 150 155 160  
 Phe Leu Tyr Ile Cys Glu Ser Leu Gly Leu Asp Glu Gly Glu Val Phe  
 165 170 175  
 Asn Ala Tyr Asn Glu Arg Ala Ser Ile Arg Ala Lys Asp Asp Phe Gln  
 180 185 190  
 Met Thr Leu Thr Val Asp Val Leu Asp Pro Asn Phe Ser Val Gln Ser  
 195 200 205  
 Ser Glu Gly Leu Gly Gln Phe Ile Lys Asn Leu Val Gly Tyr Tyr Ile  
 210 215 220  
 Ile Met Glu Gly Ile Phe Phe Tyr Ser Gly Phe Val Met Ile Leu Ser  
 225 230 235 240  
 Phe His Arg Gln Asn Lys Met Thr Gly Ile Gly Glu Gln Tyr Gln Tyr  
 245 250 255  
 Ile Leu Arg Asp Glu Thr Ile His Leu Asn Phe Gly Ile Asp Leu Ile  
 260 265 270  
 Asn Gly Ile Lys Glu Glu Asn Pro Glu Val Trp Thr Thr Glu Leu Gln  
 275 280 285

Glu	Glu	Ile	Val	Ala	Leu	Ile	Glu	Lys	Ala	Val	Glu	Leu	Glu	Ile	Glu
290						295					300				
Tyr	Ala	Lys	Asp	Cys	Leu	Pro	Arg	Gly	Ile	Leu	Gly	Leu	Arg	Ser	Ser
305					310					315					320
Met	Phe	Ile	Asp	Tyr	Val	Arg	His	Ile	Ala	Asp	Arg	Arg	Leu	Glu	Arg
				325					330					335	
Ile	Gly	Leu	Lys	Pro	Ile	Tyr	His	Ser	Arg	Asn	Pro	Phe	Pro	Trp	Met
			340					345					350		
Ser	Glu	Thr	Met	Asp	Leu	Asn	Lys	Glu	Lys	Asn	Phe	Phe	Glu	Thr	Arg
		355					360					365			
Val	Thr	Glu	Tyr	Gln	Thr	Ala	Gly	Asn	Leu	Ser	Trp				
370						375					380				

<210> 987

<211> 228

<212> PRT

<213> Chlamydia pneumoniae

<400> 987

Phe	Leu	Leu	Phe	Met	Lys	Pro	Gln	Asp	Leu	Ser	Pro	Pro	Phe	Leu	Trp
1				5					10					15	
Lys	Glu	Arg	Arg	Pro	Cys	Ile	Gln	Asp	Gly	Val	Leu	Tyr	Val	Pro	Arg
			20					25					30		
His	Tyr	Phe	Glu	His	Gln	Asn	Phe	Ser	Thr	Ser	Tyr	His	Gln	Glu	Phe
		35					40					45			
Phe	Gln	Asn	His	Thr	Ser	Ile	Ala	Cys	Glu	Leu	Cys	Ser	Gly	Asn	Gly
	50					55					60				
Asp	Trp	Val	Val	Ala	Gln	Ala	Gln	Lys	Asp	Pro	Gln	Val	Leu	Trp	Ile
65					70					75					80
Ala	Val	Glu	Gln	Arg	Phe	Asp	Arg	Val	Arg	Lys	Ile	Trp	Ser	Lys	Met
				85					90					95	
Ile	Asn	His	Gln	Ile	Gln	Asn	Leu	Arg	Ile	Val	Cys	Gly	Thr	Ala	Glu
			100					105					110		
Thr	Phe	Phe	Gln	Tyr	Tyr	Val	Pro	Asp	Gln	Phe	Leu	Gln	Arg	Leu	Val
		115					120					125			
Val	Asn	Phe	Pro	Asp	Pro	Trp	Pro	Lys	Met	Arg	His	Arg	Lys	His	Arg
	130					135					140				
Leu	Leu	Gln	Pro	Ser	Phe	Val	Gln	Glu	Ile	Ser	Arg	Ser	Leu	Gln	Asp
145					150					155					160
Ser	Ala	Val	Phe	Ala	Leu	Ala	Thr	Asp	Asp	Lys	Thr	Tyr	Leu	Leu	Glu
				165					170					175	
Ser	Ile	Glu	Ala	Leu	Gln	Thr	His	Leu	Ala	Pro	Arg	Met	Glu	Thr	Pro
			180					185					190		
Tyr	Tyr	Ile	Lys	Met	Thr	Asp	Thr	Tyr	Gly	Asn	Ser	Trp	Phe	Glu	Asn
		195					200					205			
Leu	Trp	Arg	Thr	Lys	Gly	Gln	Glu	Ile	Phe	Tyr	Thr	Glu	Phe	Ile	Lys
	210					215					220				
Lys	Ala	Gly	Ile												
225															

<210> 988

<211> 211

<212> PRT

<213> Chlamydia pneumoniae

<400> 988

Leu	Glu	Asn	Gly	Ile	Phe	Ala	Ile	Gly	Phe	Phe	Met	Phe	Ala	Tyr	Arg
1				5					10					15	
Thr	Leu	Leu	Thr	His	Asn	Val	Val	Gln	Val	Ser	His	Glu	Ile	Phe	Lys
			20					25					30		

Thr	Thr	Val	Val	Pro	Gly	Asp	Thr	Val	Ile	Asp	Ala	Thr	Cys	Gly	Asn
		35				40				45					
Gly	Asn	Asp	Ser	Leu	Phe	Leu	Ala	Arg	Leu	Leu	Gln	Gly	Glu	Gly	Arg
	50					55				60					
Leu	Val	Val	Tyr	Asp	Ile	Gln	Lys	Glu	Ala	Leu	Ser	Asn	Ala	Leu	Leu
65					70					75					80
Leu	Phe	Glu	Thr	His	Leu	Ser	Glu	Gln	Glu	Arg	Ser	Val	Ile	Glu	Met
				85					90					95	
Lys	Glu	Gln	Ser	His	Glu	His	Ile	Leu	Glu	Lys	Asp	Val	Lys	Leu	Ile
			100					105					110		
His	Tyr	Asn	Leu	Gly	Tyr	Leu	Pro	Lys	Gly	Asn	Lys	Glu	Ile	Thr	Thr
		115					120					125			
Leu	Ala	Arg	Thr	Thr	Glu	Ile	Ser	Leu	Glu	Tyr	Ala	Leu	Asn	Ile	Val
	130					135					140				
Arg	Pro	Asp	Gly	Leu	Ile	Thr	Val	Val	Cys	Tyr	Pro	Gly	His	Pro	Glu
145					150					155					160
Gly	Glu	Lys	Glu	Thr	His	Ser	Val	Glu	Ser	Leu	Ala	Gln	Arg	Leu	His
				165					170					175	
Pro	Lys	Glu	Trp	Cys	Val	Ser	Ser	Phe	Tyr	Val	Ala	Asn	Arg	Cys	Arg
			180					185					190		
Ala	Pro	Arg	Leu	Phe	Ile	Phe	Gln	Arg	Gln	Gly	Ser	Glu	Ser	Ser	Val
		195					200					205			
Asp	Lys	Gly													
		210													

<210> 989

<211> 319

<212> PRT

<213> Chlamydia pneumoniae

<400> 989

Lys	Phe	Phe	Ile	Asn	Leu	Ile	Asn	Leu	Asp	Gln	Gly	Ile	Leu	Lys	Met
1				5					10					15	
Lys	Glu	Ala	Ala	Pro	Met	His	Phe	Pro	Phe	Pro	Val	Arg	Arg	Ser	Val
			20					25					30		
Trp	Leu	Asn	Arg	Tyr	Ser	Thr	Phe	Arg	Ile	Gly	Gly	Pro	Ala	Asn	Tyr
		35					40					45			
Phe	Lys	Ala	Ile	His	Thr	Ile	Glu	Glu	Ala	Arg	Glu	Val	Ile	Arg	Phe
	50					55					60				
Leu	His	Ser	Ile	Asn	Tyr	Pro	Phe	Leu	Ile	Ile	Gly	Lys	Gly	Ser	Asn
65				70						75					80
Cys	Leu	Phe	Asp	Asp	Arg	Gly	Phe	Asp	Gly	Phe	Val	Leu	Tyr	Asn	Ala
			85						90					95	
Ile	Tyr	Gly	Lys	Gln	Phe	Leu	Glu	Asp	Ala	Arg	Ile	Lys	Ala	Tyr	Ser
			100					105					110		
Gly	Leu	Ser	Phe	Ala	Ala	Leu	Gly	Lys	Ala	Thr	Ala	Tyr	Asn	Gly	Tyr
		115					120					125			
Ser	Gly	Leu	Glu	Phe	Ala	Ala	Gly	Ile	Pro	Gly	Ser	Val	Gly	Gly	Ala
	130					135					140				
Ile	Phe	Met	Asn	Ala	Gly	Thr	Asn	Glu	Ser	Asp	Ile	Ser	Ser	Val	Val
145				150						155					160
Arg	Asn	Val	Glu	Thr	Ile	Asn	Ser	Glu	Gly	Glu	Leu	Cys	Ser	Tyr	Ser
			165						170					175	
Val	Glu	Glu	Leu	Glu	Leu	Ser	Tyr	Arg	Ser	Ser	Arg	Phe	His	Arg	Gln
			180					185					190		
Gln	Glu	Phe	Ile	Leu	Ser	Ala	Thr	Phe	Gln	Leu	Ser	Lys	Lys	Gln	Val
		195					200					205			
Ser	Ala	Asp	His	Ser	Lys	Ser	Ile	Leu	Gln	His	Arg	Leu	Met	Thr	Gln
	210					215					220				
Pro	Tyr	Thr	Gln	Pro	Ser	Ala	Gly	Cys	Ile	Phe	Arg	Asn	Pro	Glu	Gly
225					230					235					240

Thr	Ser	Ala	Gly	Lys	Leu	Ile	Asp	Ala	Ala	Gly	Leu	Lys	Gly	Leu	Ala	245	250	255
Ile	Gly	Gly	Ala	Gln	Ile	Ser	Pro	Leu	His	Ala	Asn	Phe	Ile	Ile	Asn	260	265	270
Thr	Gly	Lys	Ala	Thr	Ser	Asp	Glu	Val	Lys	Gln	Leu	Ile	Ala	Ile	Ile	275	280	285
Gln	Ser	Thr	Leu	Lys	Thr	Gln	Gly	Ile	Asp	Leu	Glu	His	Glu	Ile	Arg	290	295	300
Ile	Ile	Pro	Tyr	Gln	Pro	Lys	Ile	His	Ser	Pro	Val	Ser	Glu	Lys		305	310	315

<210> 990  
 <211> 179  
 <212> PRT  
 <213> Chlamydia pneumoniae

Leu	Arg	Thr	Ser	Leu	Ala	Val	Lys	Cys	Val	Leu	Leu	Thr	Ile	Phe	Trp	<400> 990
1				5					10					15		
Leu	Leu	Val	Met	Ala	Thr	Leu	Ser	Pro	Glu	Lys	Phe	Ser	Gly	Ser	Pro	
			20					25					30			
Ile	Ser	Ile	Ser	Lys	Glu	Phe	Pro	Gln	Gln	Lys	Met	Arg	Glu	Ile	Ile	
		35					40					45				
Leu	Gln	Met	Leu	Tyr	Ala	Leu	Asp	Met	Ala	Pro	Ser	Ala	Glu	Asp	Ser	
	50					55				60						
Leu	Val	Pro	Leu	Leu	Met	Ser	Gln	Thr	Ala	Val	Ser	Gln	Lys	His	Val	
65				70					75					80		
Leu	Val	Ala	Leu	Asn	Gln	Thr	Lys	Ser	Ile	Leu	Glu	Lys	Ser	Gln	Glu	
			85					90						95		
Leu	Asp	Leu	Ile	Ile	Gly	Asn	Ala	Leu	Lys	Asn	Lys	Ser	Phe	Asp	Ser	
		100					105						110			
Leu	Asp	Leu	Val	Glu	Lys	Asn	Val	Leu	Arg	Leu	Thr	Leu	Phe	Glu	His	
	115					120				125						
Phe	Tyr	Ser	Pro	Pro	Ile	Asn	Lys	Ala	Ile	Leu	Ile	Ala	Glu	Ala	Ile	
	130				135					140						
Arg	Leu	Val	Lys	Lys	Phe	Ser	Tyr	Ser	Glu	Ala	Cys	Pro	Phe	Ile	Gln	
145				150						155					160	
Ala	Ile	Leu	Asn	Asp	Ile	Phe	Thr	Asp	Ser	Ser	Leu	Asn	Glu	Asn	Ser	
			165					170						175		
Leu	Ser	Ile														

<210> 991  
 <211> 187  
 <212> PRT  
 <213> Chlamydia pneumoniae

Ser	Val	Ala	Leu	Asn	Phe	Lys	Ile	Asn	Arg	Gln	Ile	Arg	Ala	Pro	Lys	<400> 991
1				5					10					15		
Val	Arg	Leu	Ile	Gly	Ser	Ala	Gly	Glu	Gln	Leu	Gly	Ile	Leu	Ala	Ile	
		20					25						30			
Lys	Asp	Ala	Leu	Asp	Leu	Ala	Arg	Glu	Ala	Gly	Leu	Asp	Leu	Val	Glu	
	35					40						45				
Val	Ala	Ser	Asn	Ser	Glu	Pro	Pro	Val	Cys	Lys	Ile	Met	Asp	Tyr	Gly	
	50				55					60						
Lys	Tyr	Arg	Tyr	Gly	Leu	Thr	Lys	Lys	Glu	Lys	Asp	Ser	Lys	Lys	Ala	
65				70					75					80		
Gln	His	Gln	Val	Arg	Ile	Lys	Glu	Val	Lys	Leu	Lys	Pro	Asn	Ile	Asp	
			85					90						95		

Glu Asn Asp Phe Ser Thr Lys Leu Lys Gln Ala Arg Thr Phe Val Glu  
                   100                  105                  110  
 Lys Gly Asn Lys Val Lys Ile Thr Cys Met Phe Arg Gly Arg Glu Leu  
                   115                  120                  125  
 Ala Tyr Pro Glu His Gly Phe Lys Val Val Gln Lys Met Ser Gln Gly  
                   130                  135                  140  
 Leu Glu Asp Ile Gly Phe Val Glu Ala Glu Pro Lys Leu Ala Gly Arg  
 145                  150                  155                  160  
 Ser Leu Ile Cys Val Val Ala Pro Gly Thr Val Lys Thr Lys Lys Lys  
                   165                  170                  175  
 Gln Glu Lys Ser His Ala Gln Asp Glu Asn Gln  
                   180                  185

<210> 992

<211> 73

<212> PRT

<213> Chlamydia pneumoniae

<400> 992

Lys Gln Arg Lys Asn Arg Lys Ser Leu Met Pro Lys Met Lys Thr Asn  
   1                  5                  10                  15  
 Lys Ser Val Ser Ala Arg Phe Lys Leu Thr Ala Ser Gly Gln Leu Lys  
                   20                  25                  30  
 Arg Thr Arg Pro Gly Lys Arg His Lys Leu Ser Lys Lys Ser Ser Gln  
                   35                  40                  45  
 Glu Lys Arg Asn Leu Ser Lys Gln Pro Leu Val Asp Lys Gly Gln Val  
   50                  55                  60  
 Gly Met Tyr Lys Arg Met Met Leu Val  
 65                  70

<210> 993

<211> 125

<212> PRT

<213> Chlamydia pneumoniae

<400> 993

Gly Lys Leu Val Met Val Arg Ala Thr Gly Ser Val Ala Ser Arg Arg  
   1                  5                  10                  15  
 Arg Arg Lys Arg Ile Leu Lys Gln Ala Lys Gly Phe Trp Gly Asp Arg  
                   20                  25                  30  
 Lys Gly His Ile Arg Gln Ser Arg Ser Ser Val Met Arg Ala Met Ala  
                   35                  40                  45  
 Phe Asn Tyr Met His Arg Lys Asp Arg Lys Gly Asp Phe Arg Ser Leu  
   50                  55                  60  
 Trp Ile Ala Arg Leu Asn Val Ala Ser Arg Ile His Ser Leu Ser Tyr  
 65                  70                  75                  80  
 Ser Arg Leu Ile Asn Gly Leu Lys Cys Ala Asn Ile Ser Leu Asn Arg  
                   85                  90                  95  
 Lys Met Leu Ser Glu Ile Ala Ile His Asn Pro Glu Gly Phe Ala Glu  
                   100                  105                  110  
 Ile Ala Asn Gln Ala Lys Lys Ala Leu Glu Ala Thr Val  
                   115                  120                  125

<210> 994

<211> 352

<212> PRT

<213> Chlamydia pneumoniae

<400> 994

Lys Ser Phe Gly Ser His Ser Leu Gly Ile Arg Ile Ser Met Glu Met  
   1                  5                  10                  15



Lys	Glu	Glu	Ile	Glu	Ala	Val	Lys	Gln	Gln	Phe	His	Ser	Glu	Leu	Asp	20	25	30
Gln	Val	Asn	Ser	Ser	Gln	Ala	Leu	Ala	Asp	Leu	Lys	Val	Arg	Tyr	Leu	35	40	45
Gly	Lys	Lys	Gly	Ile	Phe	Arg	Ser	Phe	Ser	Glu	Lys	Leu	Lys	Gln	Cys	50	55	60
Thr	Asp	Lys	Ala	Lys	Leu	Gly	Ser	Leu	Ile	Asn	Asp	Phe	Lys	Thr	Tyr	65	70	75
Val	Glu	Asp	Leu	Leu	Gln	Glu	Lys	Ser	Leu	Val	Leu	Leu	Ala	Ser	Glu	85	90	95
Gln	Ala	Glu	Ala	Phe	Ser	Lys	Glu	Lys	Ile	Asp	Ser	Ser	Leu	Pro	Gly	100	105	110
Asp	Ser	Gln	Pro	Ser	Gly	Gly	Arg	His	Ile	Leu	Lys	Ser	Ile	Leu	Asp	115	120	125
Asp	Val	Val	Asp	Ile	Phe	Val	His	Leu	Gly	Phe	Cys	Val	Arg	Glu	Ala	130	135	140
Pro	Asn	Ile	Glu	Ser	Glu	Ala	Asn	Asn	Phe	Thr	Leu	Leu	Asn	Phe	Thr	145	150	155
Glu	Asp	His	Pro	Ala	Arg	Gln	Met	His	Asp	Thr	Phe	Tyr	Leu	Asn	Ala	165	170	175
Thr	Thr	Val	Leu	Arg	Thr	His	Thr	Ser	Asn	Val	Gln	Ala	Arg	Glu	Leu	180	185	190
Lys	Lys	Gln	Gln	Pro	Pro	Ile	Lys	Val	Val	Ala	Pro	Gly	Leu	Cys	Phe	195	200	205
Arg	Asn	Glu	Asp	Ile	Ser	Ala	Arg	Ser	His	Val	Leu	Phe	His	Gln	Val	210	215	220
Glu	Ala	Phe	Tyr	Val	Asp	His	Asn	Val	Thr	Phe	Ser	Asp	Leu	Thr	Ala	225	230	235
Ile	Leu	Ser	Ala	Phe	Tyr	His	Ser	Phe	Phe	Gln	Arg	Lys	Thr	Glu	Leu	245	250	255
Arg	Phe	Arg	His	Ser	Tyr	Phe	Pro	Phe	Val	Glu	Pro	Gly	Ile	Glu	Val	260	265	270
Asp	Val	Ser	Cys	Glu	Cys	Cys	Gly	Lys	Gly	Cys	Ala	Leu	Cys	Lys	His	275	280	285
Thr	Gly	Trp	Leu	Glu	Val	Ala	Gly	Ala	Gly	Met	Ile	His	Pro	Gln	Val	290	295	300
Leu	Arg	Asn	Gly	Asn	Val	Asp	Pro	Glu	Ile	Tyr	Ser	Gly	Tyr	Ala	Val	305	310	315
Gly	Met	Gly	Ile	Glu	Arg	Leu	Ala	Met	Leu	Lys	Tyr	Gly	Val	Ser	Asp	325	330	335
Ile	Arg	Leu	Phe	Ser	Glu	Asn	Asp	Leu	Arg	Phe	Leu	Gln	Gln	Phe	Ser	340	345	350

<210> 995

<211> 690

<212> PRT

<213> Chlamydia pneumoniae

<400> 995

Leu	Phe	Trp	Phe	His	Arg	Gly	Gly	Arg	Met	Lys	Arg	Ser	Arg	Arg	Asn	1	5	10	15
Phe	Glu	Gln	Ala	Leu	Glu	Asn	Leu	Glu	Lys	Leu	Lys	Glu	Ile	Ser	Leu	20	25	30	35
Ala	Thr	Ser	Asn	Asp	Ser	Tyr	Leu	Asn	Asn	Pro	Ala	Arg	Phe	Asn	Gln	40	45	50	55
Arg	Lys	Gln	Thr	Gly	Ser	Ser	Val	Met	Glu	Met	Lys	Glu	Ala	Leu	Lys	60	65	70	75
Asn	Val	Glu	Asn	Tyr	Leu	Leu	Glu	Ile	Ser	Cys	Val	Ser	Lys	Ser	His	80	85	90	95
Ala	Asp	Lys	Ala	Leu	Lys	Glu	Ser	Asp	Phe	Leu	Ile	Ala	Gly	Val	Gln	100	105	110	115

Asn	Val	Phe	Ser	Phe	Leu	Glu	Asn	Gln	Glu	Asp	Leu	Tyr	Lys	Ser	Leu	100	105	110
Leu	Asp	Glu	Tyr	Ser	Glu	Val	Thr	Lys	Ala	Tyr	Asp	Glu	Val	Lys	Lys	115	120	125
Asn	Leu	Lys	Glu	Val	Pro	Thr	Tyr	Asp	Leu	Ser	Thr	Asp	Glu	Glu	Thr	130	135	140
Glu	Glu	His	Lys	Glu	Pro	Glu	Cys	Phe	Leu	Asn	Asn	Leu	Val	Glu	Val	145	150	155
Lys	Arg	Asp	Arg	Ser	Tyr	Glu	Leu	Phe	Tyr	Met	Leu	Asp	Glu	Gln	Asp	165	170	175
Lys	Arg	Phe	Tyr	Asn	Asp	Ala	Leu	Val	Gln	Ile	Ile	Tyr	Lys	Gln	Asn	180	185	190
Lys	Leu	His	Glu	Thr	Val	Asn	Glu	Gly	Asp	Pro	Leu	Thr	Lys	Thr	Leu	195	200	205
Leu	Trp	Asn	Ser	Glu	Glu	Val	Lys	Asn	Ile	Ala	Ser	Ser	Leu	Val	Ile	210	215	220
Val	Asn	Asp	Met	Pro	Leu	Arg	Leu	Phe	Tyr	Gln	Arg	Ala	Leu	Ser	His	225	230	235
Leu	Asp	Ile	Glu	Ala	Val	Val	Lys	Val	His	Asn	Ala	Val	Met	Ala	Leu	245	250	255
Phe	Phe	Ser	Arg	Tyr	Glu	Ala	Thr	Met	Val	Phe	Lys	Ser	Pro	Lys	Lys	260	265	270
His	Asn	Ile	Trp	Tyr	Phe	Asn	Asp	Phe	Leu	Leu	Phe	Leu	Arg	Glu	Ala	275	280	285
Trp	Lys	Asp	Leu	Asn	Asn	Asn	Val	Ile	Asp	Ser	Gln	Glu	Arg	Lys	Gln	290	295	300
Thr	Lys	Leu	Leu	Ala	Ser	Ala	Leu	Ser	Leu	Gly	Ile	Phe	Glu	Ser	Lys	305	310	315
Leu	Val	Phe	Glu	Glu	Ala	Ser	Arg	Tyr	Leu	Tyr	Phe	Asn	Ile	Gln	Thr	325	330	335
Lys	Leu	Glu	Asn	Ala	Asn	Gly	Lys	Lys	Pro	Leu	Ser	Pro	Gly	Gln	Tyr	340	345	350
Leu	Thr	Asp	Ala	Tyr	Glu	Glu	Leu	His	Arg	Leu	Ile	Ser	Lys	Tyr	Pro	355	360	365
Asn	Gly	Pro	Leu	Phe	Lys	Ala	Met	Asp	Arg	Val	Leu	Glu	His	Glu	Ser	370	375	380
Arg	Pro	Tyr	Asp	Pro	Met	Ile	Leu	Gly	Ile	Leu	Pro	Ser	Leu	Glu	Gly	385	390	395
Thr	Leu	Lys	Leu	His	Gly	Lys	Ser	Ile	Asp	Ile	Ile	Arg	Ser	Pro	Ser	405	410	415
Pro	Val	Thr	Gln	Ser	Ser	Ile	Leu	Tyr	Ala	Asn	Cys	Asn	Glu	Glu	Phe	420	425	430
Leu	Gly	Phe	Leu	Asn	Ala	Lys	Ala	His	Arg	Ser	Glu	Val	Thr	Leu	Val	435	440	445
Leu	Asn	Ile	Gln	Asn	Arg	Ile	Ser	Arg	Lys	Glu	Arg	Ala	Arg	Ser	Arg	450	455	460
Val	Ile	Glu	Glu	Ala	Leu	Glu	Gln	Glu	Glu	His	Ala	Pro	Tyr	Val	His	465	470	475
Ala	Phe	Ser	Phe	Pro	Glu	Pro	Glu	Glu	Leu	Leu	Gln	Asn	Leu	Glu	Ser	485	490	495
Ile	His	Gly	Asp	Ile	Glu	Thr	Phe	Ala	Asp	Phe	Phe	Ser	Ile	Leu	Gln	500	505	510
Glu	Glu	Phe	His	Lys	Pro	Leu	Leu	Ala	Ser	Ser	Phe	Phe	Leu	Thr	Lys	515	520	525
Glu	Leu	Lys	Glu	Phe	Val	Gly	Ser	Phe	Leu	Lys	Glu	Lys	Leu	Thr	Ala	530	535	540
Leu	Lys	Asp	Ile	Phe	Phe	Ala	Lys	Lys	Lys	Ile	Leu	Phe	Arg	Asn	Asp	545	550	555
Lys	Leu	Leu	Leu	Leu	His	Leu	Leu	Ser	Tyr	Leu	Ile	Val	Phe	Lys	Leu	565	570	575

Ile	Glu	Arg	Thr	Asn	Pro	Asn	Ser	Ile	Val	Val	Val	Ser	Lys	Asp	Gly
			580					585					590		
Leu	Asp	Tyr	Val	Ser	Val	Phe	Ile	Ala	Gly	Phe	Ala	Phe	Phe	Ser	Arg
		595					600					605			
Glu	Ala	Phe	Trp	Asp	Glu	His	Ser	Leu	Lys	Leu	Leu	Leu	Thr	Asn	Val
	610					615					620				
Leu	Ser	Pro	Thr	Leu	Val	Ala	Arg	Asp	Arg	Leu	Val	Phe	Val	Ser	His
	625				630					635					640
Ile	Glu	Leu	Leu	Ser	Lys	Phe	Val	Asn	Cys	Leu	Lys	Lys	Asn	Arg	Gln
			645						650					655	
Gly	Phe	Ser	Ser	Leu	Lys	Ser	Phe	Phe	Lys	Asp	Asp	Ile	Glu	Gly	Trp
			660					665					670		
Glu	Phe	Thr	Gly	Tyr	Leu	His	Glu	Leu	Thr	Glu	Val	Ser	His	Lys	His
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Asn	Leu														
	690														

<210> 996

<211> 367

<212> PRT

<213> Chlamydia pneumoniae

<400> 996

Arg	Met	Leu	Ile	Trp	Lys	Arg	His	Leu	Leu	Thr	Arg	Phe	Trp	Phe	Ala
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Leu	Thr	Ser	Leu	Leu	Val	Leu	Ala	Leu	Ile	Phe	Tyr	Ala	Ser	Ile	His
		20						25					30		
His	Ser	Leu	His	Thr	Leu	Lys	Gly	Ala	Ser	Thr	Ala	Ala	Ser	Gly	Ala
		35					40					45			
Ser	Val	Lys	Leu	Ser	Ile	Leu	Tyr	Tyr	Leu	Ala	Gln	Ile	Ser	Leu	Lys
	50					55					60				
Ala	Glu	Phe	Leu	Met	Pro	Gln	Leu	Val	Ala	Val	Ala	Thr	Thr	Ser	Thr
	65				70					75					80
Leu	Phe	Ala	Met	Gln	Asn	Lys	Arg	Glu	Ile	Ile	Leu	Leu	Gln	Ala	Ser
			85						90					95	
Gly	Leu	Ser	Leu	Lys	Ser	Leu	Met	His	Pro	Leu	Leu	Leu	Ser	Gly	Ala
		100						105					110		
Val	Ile	Met	Met	Val	Leu	Tyr	Ala	Asn	Phe	Gln	Trp	Leu	His	Pro	Ile
	115						120					125			
Cys	Glu	Lys	Ile	Ser	Ile	Thr	Lys	Glu	Asn	Met	Asp	Arg	Gly	Thr	Thr
	130					135					140				
Asp	Lys	Glu	Gln	Gly	Lys	Ile	Pro	Ala	Leu	Tyr	Leu	Lys	Asp	Gln	Thr
	145				150					155					160
Val	Leu	Leu	Tyr	Ser	Ser	Ile	Glu	Pro	Lys	Thr	Leu	Thr	Leu	Asn	Asn
			165						170					175	
Val	Phe	Trp	Ile	Lys	Asp	Pro	Lys	Thr	Ile	Tyr	Thr	Met	Glu	Lys	Leu
		180						185					190		
Ala	Phe	Thr	Thr	Leu	Ser	Leu	Pro	Ile	Gly	Leu	Asn	Val	Thr	Gln	Phe
		195					200					205			
Phe	Ala	Asn	Asp	Ser	Glu	Asn	Leu	Glu	Leu	Lys	Glu	Phe	Phe	Asp	Met
	210					215					220				
Lys	Glu	Phe	Pro	Glu	Ile	Glu	Phe	Asn	Phe	Tyr	Glu	Asn	Pro	Phe	Ser
	225				230					235					240
Lys	Leu	Phe	Ser	Ala	Gly	Asn	Lys	Asn	Arg	Leu	Ser	Glu	Phe	Phe	Lys
			245						250					255	
Ala	Ile	Pro	Trp	Asn	Ala	Thr	Gly	Leu	Gly	Leu	Ser	Thr	Gln	Val	Pro
		260					265						270		
Gln	Arg	Ile	Leu	Ser	Leu	Leu	Ala	Gln	Phe	Tyr	Tyr	Val	Leu	Ile	Ser
	275						280					285			
Pro	Leu	Ala	Cys	Met	Ala	Ala	Ile	Ile	Leu	Ser	Ala	Tyr	Leu	Cys	Leu
	290					295					300				

Arg Phe Ser Arg Thr Pro Thr Val Thr Leu Ala Tyr Leu Ile Pro Leu  
 305 310 315 320  
 Gly Thr Val Asn Ile Phe Phe Val Phe Leu Lys Ala Gly Ile Val Leu  
 325 330 335  
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 Ile Val Leu Phe Leu Leu Thr Asn Tyr Ala Tyr Ala Lys Leu Gln  
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<211> 358

<212> PRT

<213> Chlamydia pneumoniae

<400> 997

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 20 25 30  
 Leu Gln Glu Ile Val Ala Tyr Ile Ala Lys Asp Val Pro Tyr Asp Thr  
 35 40 45  
 Val Leu Arg Leu Met Ala Tyr Gln Ile Pro Tyr Leu Leu Pro Phe Ile  
 50 55 60  
 Leu Pro Gly Ser Cys Phe Val Ser Ala Phe Ser Leu Phe Arg Lys Leu  
 65 70 75 80  
 Ser Asp Asn Asn His Met Thr Phe Leu Arg Ala Ser Gly Ala Ser Gln  
 85 90 95  
 Ser Ile Ile Met Phe Pro Val Leu Met Val Ser Gly Ala Ile Cys Cys  
 100 105 110  
 Leu Asn Phe Tyr Thr Cys Ser Glu Leu Ala Ser Ile Cys Arg Tyr Gln  
 115 120 125  
 Thr Cys Lys Glu Ile Ala Asn Met Ala Met Thr Ser Pro Ala Leu Leu  
 130 135 140  
 Leu Gln Thr Leu Gln Lys Lys Glu Asn Asn Arg Ile Phe Ile Ala Val  
 145 150 155 160  
 Asp His Cys Ala Lys Ser Lys Phe Asp Asn Val Ile Val Ala Leu Lys  
 165 170 175  
 Gly Asn Asn Glu Ile Ser His Val Gly Ile Ile Lys Ser Ile Ile Pro  
 180 185 190  
 Asp Thr Thr Lys Asp Thr Val Lys Ala Lys Asp Val Val Phe Ile Ser  
 195 200 205  
 Lys Leu Pro Asp Ser Leu Thr Glu Ser Ser Ser Pro Ser Ser Gln Arg  
 210 215 220  
 Phe Tyr Ile Glu Thr Leu Asp Glu Leu Leu Ile Pro Lys Ile Thr Ser  
 225 230 235 240  
 Thr Leu Phe Ala Gly Lys Ser Tyr Leu Lys Thr Arg Thr Asp Tyr Leu  
 245 250 255  
 Pro Trp Lys Gln Leu Val Lys Gln Ser Leu Lys His Ser His Leu Pro  
 260 265 270  
 Glu Thr Leu Arg Arg Val Ala Ile Gly Phe Leu Cys Ile Thr Leu Thr  
 275 280 285  
 Tyr Ala Gly Met Ile Leu Gly Ile His Lys Pro Arg Phe Arg Lys Ser  
 290 295 300  
 Ile Ala Leu Tyr Phe Ile Phe Pro Ile Leu Asp Leu Ile Leu Leu Ile  
 305 310 315 320  
 Val Gly Lys Asn Thr Lys Asn Leu Pro Leu Ala Phe Met Leu Phe Val  
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 <212> PRT  
 <213> Chlamydia pneumoniae

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 Ala Leu Ser Gly Gly Ser Asp Ser Leu Phe Leu Phe Tyr Leu Leu Lys  
 35 40 45  
 Glu Arg Gly Val Ser Phe Thr Ala Val His Ile Asp His Gly Trp Arg  
 50 55 60  
 Ser Thr Ser Ala Gln Glu Ala Lys Glu Leu Glu Glu Leu Cys Ala Arg  
 65 70 75 80  
 Glu Gly Val Pro Phe Val Leu Tyr Thr Leu Thr Ala Glu Glu Gln Gly  
 85 90 95  
 Asp Lys Asp Leu Glu Asn Gln Ala Arg Lys Lys Arg Tyr Ala Phe Leu  
 100 105 110  
 Tyr Glu Ser Tyr Arg Gln Leu Asp Ala Gly Gly Ile Phe Leu Ala His  
 115 120 125  
 His Ala Asn Asp Gln Ala Glu Thr Val Leu Lys Arg Leu Leu Glu Ser  
 130 135 140  
 Ala His Leu Thr Asn Leu Lys Ala Met Ala Glu Arg Ser Tyr Val Glu  
 145 150 155 160  
 Asp Val Leu Leu Leu Arg Pro Leu Leu His Ile Pro Lys Ser Ser Leu  
 165 170 175  
 Lys Glu Ala Leu Asp Ala Arg Gly Ile Ser Tyr Leu Gln Asp Pro Ser  
 180 185 190  
 Asn Glu Asp Glu Arg Tyr Leu Arg Ala Arg Met Arg Lys Lys Leu Phe  
 195 200 205  
 Pro Trp Leu Glu Glu Val Phe Gly Lys Asn Ile Thr Phe Pro Leu Leu  
 210 215 220  
 Thr Leu Gly Glu Glu Ser Ala Glu Leu Ser Glu Tyr Leu Glu Lys Gln  
 225 230 235 240  
 Ala Gln Pro Phe Phe Ser Ala Ala Thr His Gln Asp Ser Gln Gly Glu  
 245 250 255  
 Leu Pro Cys Pro Asp Cys Leu Ile Gln Gln Ala Phe Leu Cys Lys Trp  
 260 265 270  
 Val Met Lys Lys Phe Phe Asn Asn Ala Gly Ile Ala Val Ser Arg His  
 275 280 285  
 Phe Leu Gln Met Val Tyr Asp His Leu Ser Arg Ser Ser Cys Ala Thr  
 290 295 300  
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 305 310 315 320  
 Ile Asp

<210> 999  
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 <212> PRT  
 <213> Chlamydia pneumoniae

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 Pro Glu Pro Lys Lys Asn Phe Pro Thr Val Phe Phe Phe Leu Leu Phe  
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 Gly Val Val Phe Gly Val Val Ala Phe Gln Asn Phe Leu Ala Gly Lys  
 35 40 45

Lys	Ala	Arg	Val	Gly	Phe	Ser	His	Gln	Ile	Glu	His	Leu	Val	Asn	Leu	50	55	60
Arg	Leu	Ile	Val	Pro	Glu	Asp	Ser	His	Lys	Ile	Ala	Leu	Asn	Asp	Asn	65	70	75
Leu	Val	Ser	Phe	Gly	Gly	Arg	Phe	Arg	Asp	Val	Gln	Thr	Gln	Glu	Gly	85	90	95
Gln	Leu	Arg	Tyr	His	Tyr	Leu	Glu	Leu	Ile	Asp	Gln	Gly	His	Arg	Leu	100	105	110
Asp	Leu	Asp	Leu	Gln	Glu	Thr	Ser	Lys	Ser	Leu	Thr	Thr	Leu	Gly	Lys	115	120	125
Glu	Val	Thr	Asn	Ser	Ile	Leu	Trp	Phe	Ser	Ala	Ile	Ser	Gly	Ser	Pro	130	135	140
Ile	Pro	Glu	Gln	Gly	Tyr	Ala	Ile	Ser	Tyr	Pro	Ser	Glu	Val	Ser	Gly	145	150	155
Ser	Val	Leu	Thr	Glu	Pro	Leu	Val	Val	Thr	Gly	Pro	Ala	Thr	Pro	Gln	165	170	175
Leu	Ile	Asn	Leu	His	Ser	Leu	Gln	Glu	Arg	Tyr	Pro	Thr	Leu	Ser	Arg	180	185	190
Ser	Pro	Glu	Ala	Leu	Arg	Thr	Tyr	Gly	Ser	Asp	Leu	Tyr	Glu	Leu	Ile	195	200	205
Gly	Lys	Tyr	Leu	Ser	Pro	Val	Leu	Gly	Ile	Gly	Ser	Glu	Thr	Leu	Lys	210	215	220
Arg	Glu	Leu	Lys	Asp	Leu	Tyr	Gln	Gln	Val	Glu	Val	Ser	Leu	Thr	Gln	225	230	235
Glu	Thr	Asp	Thr	Glu	Ala	Ala	Tyr	Thr	Leu	Tyr	Gly	Gln	Val	Leu	Ser	245	250	255
Thr	Leu	Asn	Arg	Ile	Ser	Ser	Ser	Leu	Val	Val	Ser	Glu	Gly	Gly	Glu	260	265	270
Arg	Phe	Ser	Gln	Leu	Arg	Ser	Val	Arg	Leu	Tyr	Arg	Glu	Glu	Trp	Asn	275	280	285
Lys	Tyr	His	Lys	Leu	Val	Glu	Ala	Arg	Asp	Leu	Asn	Gln	Ala	Gln	Leu	290	295	300
Glu	Lys	Leu	Arg	Gly	Glu	Leu	Ser	Gln	Thr	Val	Trp	Tyr	Phe	Asn	Asn	305	310	315
Gln	Glu	Leu	Ser	Ser	Arg	Ser	Leu	Glu	Lys	Gln	Asp	Pro	Glu	Val	Phe	325	330	335
Gly	His	Trp	Phe	Ala	Gly	Ala	Lys	Glu	Glu	Trp	Thr	Ala	Phe	Lys	Phe	340	345	350
Asn	His	Ser	Leu	Ser	Phe	Lys	Ala	Pro	Asp	Gln	Pro	Arg	Asn	Leu	Val	355	360	365
Leu	Glu	Lys	Thr	Phe	Lys	Ser	Gln	Glu	Pro	Ser	Pro	His	Tyr	Leu	Gly	370	375	380
Tyr	Leu	Phe	Thr	Phe	Leu	Pro	Ile	Ile	Leu	Val	Leu	Leu	Phe	Val	Tyr	385	390	395
Leu	Val	Phe	Ser	Arg	Gln	Met	Arg	Gly	Met	Ser	Gly	Ser	Ala	Met	Ser	405	410	415
Phe	Gly	Lys	Ser	Pro	Ala	Arg	Met	Leu	Leu	Lys	Gly	Gln	Asn	Lys	Val	420	425	430
Thr	Phe	Ala	Asp	Val	Ala	Gly	Ile	Glu	Glu	Ala	Lys	Glu	Glu	Leu	Ile	435	440	445
Glu	Ile	Val	Asp	Phe	Leu	Lys	Asn	Pro	Asn	Lys	Phe	Thr	Ser	Leu	Gly	450	455	460
Gly	Arg	Ile	Pro	Lys	Gly	Val	Leu	Leu	Ile	Gly	Pro	Pro	Gly	Thr	Gly	465	470	475
Lys	Thr	Leu	Ile	Ala	Lys	Ala	Val	Ser	Gly	Glu	Ala	Asp	Arg	Pro	Phe	485	490	495
Phe	Ser	Ile	Ala	Gly	Ser	Asp	Phe	Val	Glu	Met	Phe	Val	Gly	Val	Gly	500	505	510
Ala	Ser	Arg	Ile	Arg	Asp	Met	Phe	Glu	Gln	Ala	Lys	Arg	Asn	Ala	Pro	515	520	525

Cys	Ile	Ile	Phe	Ile	Asp	Glu	Ile	Asp	Ala	Val	Gly	Arg	His	Arg	Gly
530						535					540				
Ala	Gly	Ile	Gly	Gly	Gly	His	Asp	Glu	Arg	Glu	Gln	Thr	Leu	Asn	Gln
545					550					555					560
Leu	Leu	Val	Glu	Met	Asp	Gly	Phe	Gly	Thr	Asn	Glu	Gly	Val	Ile	Leu
				565					570					575	
Met	Ala	Ala	Thr	Asn	Arg	Pro	Asp	Val	Leu	Asp	Lys	Ala	Leu	Leu	Arg
			580					585					590		
Pro	Gly	Arg	Phe	Asp	Arg	Arg	Val	Val	Met	Asn	Leu	Pro	Asp	Ile	Lys
		595					600					605			
Gly	Arg	Phe	Glu	Ile	Leu	Met	Val	His	Ala	Lys	Arg	Ile	Lys	Leu	Asp
	610					615					620				
Pro	Thr	Val	Asp	Leu	Met	Ala	Val	Ala	Arg	Ser	Thr	Pro	Gly	Ala	Ser
625					630					635					640
Gly	Ala	Asp	Leu	Glu	Asn	Leu	Leu	Asn	Glu	Ala	Ala	Leu	Leu	Ala	Ala
				645					650					655	
Arg	Lys	Asp	Arg	Thr	Ala	Val	Thr	Ala	Val	Asp	Val	Ala	Glu	Ala	Arg
			660					665					670		
Asp	Lys	Val	Leu	Tyr	Gly	Lys	Glu	Arg	Arg	Ser	Leu	Glu	Met	Asp	Ala
		675					680					685			
Glu	Glu	Arg	Lys	Thr	Thr	Ala	Tyr	His	Glu	Ser	Gly	His	Ala	Val	Val
	690					695					700				
Gly	Leu	Cys	Val	Gln	His	Gly	Asp	Pro	Val	Asp	Lys	Val	Thr	Ile	Ile
705					710					715					720
Pro	Arg	Gly	Leu	Ser	Leu	Gly	Ala	Thr	His	Phe	Leu	Pro	Glu	Lys	Asn
				725					730					735	
Lys	Leu	Ser	Tyr	Trp	Lys	Lys	Glu	Leu	Tyr	Asp	Gln	Leu	Ala	Val	Leu
			740					745					750		
Met	Gly	Gly	Arg	Ala	Ala	Glu	Glu	Ile	Phe	Leu	Gly	Asp	Ile	Ser	Ser
		755					760					765			
Gly	Ala	Gln	Gln	Asp	Ile	Ser	Gln	Ala	Thr	Lys	Leu	Val	Arg	Ser	Met
	770					775					780				
Val	Cys	Glu	Trp	Gly	Met	Ser	Pro	Gln	Leu	Gly	Asn	Val	Thr	Tyr	Asp
785					790					795					800
Glu	Arg	Ser	Asp	Gly	Leu	Thr	Gly	Tyr	Gly	Gly	Tyr	His	Glu	Lys	Ser
				805					810					815	
Tyr	Ser	Glu	Glu	Thr	Ala	Lys	Thr	Ile	Asp	Thr	Glu	Leu	Arg	Met	Leu
			820					825					830		
Leu	Asp	Ala	Ala	Tyr	Gln	Arg	Ala	Leu	Asp	Ile	Ile	Asn	Glu	His	Lys
		835					840					845			
Ala	Glu	Ile	Glu	Leu	Met	Thr	Gln	Met	Leu	Ile	Glu	Phe	Glu	Thr	Leu
						855					860				
Asp	Ser	Lys	Asp	Val	Lys	Glu	Ile	Met	Asp	His	Thr	Trp	Asp	Pro	Glu
865					870					875					880
Lys	Lys	Arg	Ala	Arg	Leu	Lys	Glu	Glu	Gly	Met	Leu	Phe	Lys	Lys	Ser
				885					890					895	
Ser	Asp	Asp	Leu	Pro	Pro	Pro	Pro	Pro	Lys	Glu	Asp	Thr	Leu	Pro	Gly
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Leu	Gly	Phe	Asn	Ala	Thr										
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<210> 1000

<211> 698

<212> PRT

<213> Chlamydia pneumoniae

<400> 1000

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			20					25					30		

Gly	Ala	Val	Leu	Val	Arg	Ser	Gly	Glu	Thr	Cys	Val	Phe	Ala	Ser	Ala		
	35						40					45					
Cys	Ala	Val	Asp	Leu	Asp	Asp	Lys	Val	Asp	Phe	Leu	Pro	Leu	Arg	Val		
	50					55					60						
Asp	Tyr	Gln	Glu	Lys	Phe	Ser	Ser	Thr	Gly	Lys	Thr	Leu	Gly	Gly	Phe		
65					70					75					80		
Ile	Lys	Arg	Glu	Gly	Arg	Pro	Ser	Glu	Lys	Glu	Ile	Leu	Val	Ser	Arg		
				85					90					95			
Leu	Ile	Asp	Arg	Ser	Leu	Arg	Pro	Ser	Phe	Pro	Tyr	Arg	Leu	Met	Gln		
			100					105					110				
Asp	Val	Gln	Val	Leu	Ser	Tyr	Val	Trp	Ser	Tyr	Asp	Gly	Gln	Val	Leu		
		115					120					125					
Pro	Asp	Pro	Leu	Ala	Ile	Cys	Ala	Ala	Ser	Ala	Ala	Leu	Ala	Ile	Ser		
	130					135					140						
Asp	Ile	Pro	Gln	Ser	Asn	Ile	Val	Ala	Gly	Val	Arg	Ile	Gly	Cys	Ile		
145					150					155					160		
Asp	Asn	Gln	Trp	Val	Ile	Asn	Pro	Thr	Lys	Thr	Glu	Leu	Ala	Ser	Ser		
				165					170					175			
Thr	Leu	Asp	Leu	Val	Leu	Ala	Gly	Thr	Glu	Asn	Ala	Ile	Leu	Met	Ile		
			180					185					190				
Glu	Gly	His	Cys	Asp	Phe	Phe	Thr	Glu	Glu	Gln	Val	Leu	Asp	Ala	Ile		
		195					200					205					
Glu	Phe	Gly	His	Lys	His	Ile	Val	Thr	Ile	Cys	Lys	Arg	Leu	Gln	Leu		
	210					215					220						
Trp	Gln	Glu	Glu	Val	Gly	Lys	Ser	Lys	Asn	Leu	Ser	Ala	Val	Tyr	Pro		
225					230					235					240		
Leu	Pro	Ala	Glu	Val	Leu	Thr	Ala	Val	Lys	Glu	Cys	Ala	Gln	Asp	Lys		
				245					250					255			
Phe	Thr	Glu	Leu	Phe	Asn	Ile	Lys	Asp	Lys	Lys	Val	His	Ala	Ala	Thr		
			260					265					270				
Ala	His	Glu	Ile	Glu	Glu	Asn	Ile	Leu	Glu	Lys	Leu	Gln	Arg	Glu	Asp		
		275				280						285					
Asp	Asp	Leu	Phe	Ser	Ser	Phe	Asn	Ile	Lys	Ala	Ala	Cys	Lys	Thr	Leu		
	290					295					300						
Lys	Ser	Asp	Thr	Met	Arg	Ala	Leu	Ile	Arg	Asp	Arg	Glu	Ile	Arg	Ala		
305					310					315					320		
Asp	Gly	Arg	Ser	Leu	Thr	Thr	Val	Arg	Pro	Ile	Thr	Ile	Glu	Thr	Ser		
				325					330					335			
Tyr	Leu	Pro	Arg	Thr	His	Gly	Ser	Cys	Leu	Phe	Thr	Arg	Gly	Glu	Thr		
			340					345					350				
Gln	Thr	Leu	Ala	Val	Cys	Thr	Leu	Gly	Ser	Glu	Ala	Met	Ala	Gln	Arg		
		355					360					365					
Tyr	Glu	Asp	Leu	Asn	Gly	Glu	Gly	Leu	Ser	Lys	Phe	Tyr	Leu	Gln	Tyr		
	370				375						380						
Phe	Phe	Pro	Pro	Phe	Ser	Val	Gly	Glu	Val	Gly	Arg	Ile	Gly	Ser	Pro		
385					390					395					400		
Gly	Arg	Arg	Glu	Ile	Gly	His	Gly	Lys	Leu	Ala	Glu	Lys	Ala	Leu	Ser		
				405					410					415			
His	Ala	Leu	Pro	Asp	Ser	Ala	Thr	Phe	Pro	Tyr	Thr	Ile	Arg	Ile	Glu		
			420					425					430				
Ser	Asn	Ile	Thr	Glu	Ser	Asn	Gly	Ser	Ser	Ser	Met	Ala	Ser	Val	Cys		
		435					440					445					
Gly	Gly	Cys	Leu	Ala	Leu	Met	Asp	Ala	Gly	Val	Pro	Ile	Ser	Ser	Pro		
	450					455					460						
Ile	Ala	Gly	Ile	Ala	Met	Gly	Leu	Ile	Leu	Asp	Asp	Gln	Gly	Ala	Ile		
465					470					475					480		
Ile	Leu	Ser	Asp	Ile	Ser	Gly	Leu	Glu	Asp	His	Leu	Gly	Asp	Met	Asp		
				485					490					495			
Phe	Lys	Ile	Ala	Gly	Ser	Gly	Lys	Gly	Ile	Thr	Ala	Phe	Gln	Met	Asp		
			500					505					510				



Ile	Lys	Val	Glu	Gly	Ile	Thr	Pro	Ala	Ile	Met	Lys	Lys	Ala	Leu	Ser
	515						520					525			
Gln	Ala	Lys	Gln	Gly	Cys	Asn	Asp	Ile	Leu	Asn	Ile	Met	Asn	Glu	Ala
	530						535				540				
Leu	Ser	Ala	Pro	Lys	Ala	Asp	Leu	Ser	Gln	Tyr	Ala	Pro	Arg	Ile	Glu
545					550					555					560
Thr	Met	Gln	Ile	Lys	Pro	Thr	Lys	Ile	Ala	Ser	Val	Ile	Gly	Pro	Gly
				565					570						575
Gly	Lys	Gln	Ile	Arg	Gln	Ile	Ile	Glu	Glu	Thr	Gly	Val	Gln	Ile	Asp
			580					585					590		
Val	Asn	Asp	Leu	Gly	Val	Val	Ser	Ile	Ser	Ala	Ser	Ser	Ala	Ser	Ala
	595						600					605			
Ile	Asn	Lys	Ala	Lys	Glu	Ile	Ile	Glu	Gly	Leu	Val	Gly	Glu	Val	Glu
	610					615					620				
Val	Gly	Lys	Thr	Tyr	Arg	Gly	Arg	Val	Thr	Ser	Val	Val	Ala	Phe	Gly
625					630					635					640
Ala	Phe	Val	Glu	Val	Leu	Pro	Gly	Lys	Glu	Gly	Leu	Cys	His	Ile	Ser
				645					650					655	
Glu	Cys	Ser	Arg	Gln	Arg	Ile	Glu	Asn	Ile	Ser	Asp	Val	Val	Lys	Glu
			660					665					670		
Gly	Asp	Ile	Ile	Asp	Val	Lys	Leu	Leu	Ser	Ile	Asn	Glu	Lys	Gly	Gln
	675						680					685			
Leu	Lys	Leu	Ser	His	Lys	Ala	Thr	Leu	Glu						
	690					695									

<210> 1001  
 <211> 101  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 1001															
Ser	Ala	Phe	Ala	Ala	Ile	Ile	Leu	Arg	Arg	His	Pro	Met	Ser	Leu	Asp
1				5					10					15	
Lys	Gly	Thr	Lys	Glu	Glu	Ile	Thr	Lys	Lys	Phe	Gln	Leu	His	Glu	Lys
			20					25					30		
Asp	Thr	Gly	Ser	Ala	Asp	Val	Gln	Ile	Ala	Ile	Leu	Thr	Glu	His	Ile
	35						40					45			
Ala	Glu	Leu	Lys	Glu	His	Leu	Lys	Arg	Ser	Pro	Lys	Asp	Gln	Asn	Ser
	50					55					60				
Arg	Leu	Ala	Leu	Leu	Lys	Leu	Val	Gly	Gln	Arg	Arg	Lys	Leu	Leu	Glu
65					70					75					80
Tyr	Leu	Asn	Ser	Thr	Asp	Thr	Glu	Arg	Tyr	Lys	Asn	Leu	Ile	Thr	Arg
				85					90					95	
Leu	Asn	Leu	Arg	Lys											
			100												

<210> 1002  
 <211> 167  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 1002															
Tyr	Tyr	Leu	Glu	Leu	Gly	Gly	Glu	Lys	Leu	Ile	Asn	Met	Glu	Lys	Asp
1				5					10					15	
Ile	Phe	Phe	Met	Gln	Gln	Ala	Phe	Lys	Glu	Ala	Arg	Lys	Ala	Tyr	Asp
			20					25					30		
Gln	Asp	Glu	Val	Pro	Val	Gly	Cys	Val	Ile	Val	Lys	Asp	Asp	Lys	Ile
	35						40					45			
Ile	Ala	Arg	Ala	His	Asn	Ser	Val	Glu	Lys	Leu	Lys	Asp	Ala	Thr	Ala
	50					55						60			

His	Ala	Glu	Ile	Leu	Cys	Ile	Gly	Ser	Ala	Ala	Gln	Asp	Leu	Asp	Asn
65					70					75					80
Trp	Arg	Leu	Leu	Asp	Thr	Val	Leu	Tyr	Cys	Thr	Leu	Glu	Pro	Cys	Leu
				85					90					95	
Met	Cys	Ala	Gly	Ala	Ile	Gln	Leu	Ala	Arg	Ile	Pro	Arg	Ile	Val	Trp
			100					105						110	
Ala	Ala	Pro	Asp	Val	Arg	Leu	Gly	Ala	Gly	Gly	Ser	Trp	Val	Asn	Ile
			115				120					125			
Phe	Thr	Glu	Glu	His	Pro	Phe	His	Thr	Val	Ser	Cys	Thr	Gly	Gly	Val
	130					135					140				
Cys	Ser	Glu	Glu	Ala	Glu	His	Leu	Met	Lys	Lys	Phe	Phe	Val	Glu	Lys
145					150					155					160
Arg	Arg	Glu	Lys	Ser	Glu	Lys									
					165										

<210> 1003  
 <211> 82  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 1003															
Lys	Ser	Ala	Glu	Arg	Lys	Val	Lys	Asn	Lys	Ile	Val	Thr	Leu	Leu	Asp
1				5					10					15	
Gln	Leu	Tyr	Glu	Asp	Gln	Glu	Ser	Arg	Leu	Gln	Lys	Leu	Gly	Glu	Glu
			20					25					30		
Ile	Val	Pro	Asn	Leu	Thr	Pro	Glu	Asp	Leu	Leu	Gln	Pro	Met	Asp	Phe
		35					40					45			
Pro	Gln	Leu	Glu	Gly	Asn	Pro	Ala	Phe	Arg	Phe	Glu	Glu	Gly	Val	Leu
	50					55					60				
Ser	Gly	Ile	Gly	Glu	Val	Arg	Ala	Ala	Ile	Leu	Ala	Ala	Leu	Ser	Gln
65					70					75					80
Glu	Asn														

<210> 1004  
 <211> 257  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 1004															
Thr	Ser	Asn	Lys	Thr	Ile	His	Pro	Leu	Leu	Trp	Gly	Pro	Asp	Arg	Gln
1				5					10					15	
Ile	Ala	Gly	Lys	Ala	Ser	Met	Arg	Val	Ile	Phe	Pro	Asp	Lys	His	Asn
			20					25					30		
Asn	Phe	Pro	Asn	Leu	Ser	Lys	Leu	Lys	Lys	Leu	Pro	Ser	Val	Ile	
		35					40					45			
Leu	Val	Thr	Ser	Cys	Ile	Ala	Pro	Phe	Phe	Ser	Tyr	Ile	Ile	Asn	Lys
	50					55					60				
Phe	Phe	Gly	Ile	Pro	Gly	Leu	Leu	Glu	Ile	Leu	Ala	Leu	Ser	Val	Lys
65					70					75					80
Gly	Ile	Gln	Lys	His	His	Phe	Trp	Gln	Phe	Leu	Thr	Tyr	Pro	Leu	Ile
				85					90					95	
Thr	Ala	Asp	Ser	Leu	Ser	Leu	Asn	Lys	Asp	Gln	Ser	Phe	Glu	Ile	Thr
			100					105					110		
Gln	Arg	Leu	Leu	Arg	Asn	Val	Leu	Asp	Phe	Phe	Leu	Phe	Tyr	Lys	
		115				120					125				
Ala	Ile	Gln	His	Leu	Ile	Arg	Lys	Leu	Gly	Ala	Phe	Ser	Val	Leu	Val
	130					135					140				
Val	Ile	Ser	Gly	Gln	Ala	Leu	Ile	Ile	Gly	Ala	Val	Leu	Trp	Gly	Phe
145					150					155					160

Met Ala Leu Ile His Ser Ser Gln Ser Phe Phe Gly Pro Glu Ser Ile  
165 170 175  
Ile Cys Gly Val Leu Thr Val Gln Ile Phe Leu Asp Pro Glu Lys Arg  
180 185 190  
Phe Thr Ile Gly Pro Thr Pro Leu Ser Val Ser Ile Lys Trp Gly Phe  
195 200 205  
Leu Phe Val Leu Gly Phe Tyr Cys Cys Ile Leu Ile Phe Ser Gly Ala  
210 215 220  
Phe Leu Leu Leu Leu Ala Ser Met Leu Ala Ile Val Leu Ala Ile Leu  
225 230 235 240  
Phe Cys Lys Lys Glu Lys Ile Pro Asn Pro Tyr Thr Thr Ser Leu Arg  
245 250 255  
Phe

<210> 1005  
<211> 180  
<212> PRT  
<213> Chlamydia pneumoniae

<400> 1005  
His Leu Ser Ile Glu Glu Leu Met Ser Ile Gln Pro Val Ser Asn Thr  
1 5 10 15  
Thr Thr Lys Ala Asp Lys Val Ile Pro Asp Ser Thr Lys Val Ile Ser  
20 25 30  
Asp Ser Ile Thr Ile Asn Lys Gln Ser Ala Phe Tyr Phe Cys Ile Ser  
35 40 45  
Val Met Leu Arg Leu Ser Glu Ser Thr Thr Glu Tyr Gly Lys Ser Ile  
50 55 60  
Leu Ala Val Leu Glu Asp Asn Thr Ile Val Gln Gln Gln Arg Val Lys  
65 70 75 80  
Glu Leu Ile Asn Leu Pro Leu Leu Lys Val Pro Asp Leu Gln Lys Lys  
85 90 95  
Asp Gly Ser Asp Asp Glu Tyr Lys Asn Gln Asn Glu Ile Gln Ala Tyr  
100 105 110  
Gln Ser Ser Asn Gln Gln Ile Ser Ala Asn Arg Gln Met Ile Gln Gln  
115 120 125  
Glu Leu Ser Ser Ala Gln Gln Arg Ala Gln Ala Asn Gln Lys Ser Val  
130 135 140  
Asn Ser Thr Thr Ile Glu Ser Met Gln Ile Leu Gln Ala Thr Ser Ser  
145 150 155 160  
Met Leu Ser Thr Leu Lys Glu Leu Thr Ile Lys Ala Asn Leu Thr Asn  
165 170 175  
Ser Pro Ser Asp  
180

<210> 1006  
<211> 181  
<212> PRT  
<213> Chlamydia pneumoniae

<400> 1006  
Asn Arg Lys Pro Val Arg Leu Asn Met Trp Ile Ile Asp Pro Leu Ser  
1 5 10 15  
Ala Lys Lys Pro Leu Gln Ala Ala Ile Asn Val Pro Gly Thr Pro Ile  
20 25 30  
Thr Gly Gly Pro Asn Thr Ala Thr Ala Asp Asp Ile Ile Ala Lys Phe  
35 40 45  
Ser Lys Asp Ser Asn Pro Leu Ile Val Thr Val Tyr Tyr Val Tyr Gln  
50 55 60

Ser Val Leu Val Ala Gln Asp Asn Leu Ser Ile Ile Ala Gln Glu Leu  
 65 70 75 80  
 Gln Ala Asn Ser Ser Ala Gln Thr Tyr Leu Asn Asn Gln Glu Ala Leu  
 85 90 95  
 Tyr Gln Tyr Val Ser Ile Pro Lys Asn Lys Leu Asn Asp Asn Ser Ser  
 100 105 110  
 Ser Tyr Leu Gln Asn Ile Gln Ser Asp Asn Gln Ala Ile Gly Ala Ser  
 115 120 125  
 Arg Gln Ala Ile Gln Asn Gln Ile Ser Ser Leu Gly Asn Ala Ala Gln  
 130 135 140  
 Val Ile Ser Ser Asn Leu Asn Thr Asn Asn Asn Ile Ile Gln Gln Ser  
 145 150 155 160  
 Leu Gln Val Gly Gln Ala Leu Ile Gln Thr Phe Ser Gln Ile Val Ser  
 165 170 175  
 Leu Ile Ala Asn Ile  
 180

<210> 1007

<211> 168

<212> PRT

<213> Chlamydia pneumoniae

<400> 1007

Thr Lys Val Asn Phe Phe Ile Met Ser Ile Thr Thr Leu Gly Thr Leu  
 1 5 10 15  
 Pro Thr Val Asn Thr Ile Asn Ser Ser Arg Pro Pro Leu Glu Pro Leu  
 20 25 30  
 Asn Thr Pro Lys Ile Gly Ala Val Leu Phe Ser Ile Tyr Glu Leu Leu  
 35 40 45  
 Leu Gln Ala Ile Glu Ile Arg Gln Gln Thr Val Leu Thr Gln Ser Gln  
 50 55 60  
 Gln Leu Asn Asp Asn Thr Asn Ile Gln Gln Gln Leu Asn Gln Glu Thr  
 65 70 75 80  
 Asn Gln Ile Lys Tyr Ala Ile Val Ser Ala Gly Ala Lys Glu Asp Glu  
 85 90 95  
 Ile Thr Arg Val Gln Asn Gln Asn Gln Asn Tyr Ser Ala Gln Arg Ser  
 100 105 110  
 Asn Ile Gln Asp Glu Leu Val Thr Thr Arg Gln Asn Gly Gln Ile Ile  
 115 120 125  
 Leu Ser His Ala Ser Thr Asn Ile Asn Ile Ile Gln Gln Gln Ser Ser  
 130 135 140  
 Gln Asp Ser Ser Phe Ile Lys Thr Thr Asn Ser Ile Gly Ser Thr Val  
 145 150 155 160  
 Asn Gln Leu Asn Lys Pro Leu Gly  
 165

<210> 1008

<211> 73

<212> PRT

<213> Chlamydia pneumoniae

<400> 1008

Leu Trp Tyr Lys Ser Leu Ala Gly Glu Glu Lys Asp Val Ser Gly Asn  
 1 5 10 15  
 Glu Cys Asn Asp Tyr Pro Glu Val Phe Lys Asp Asp Val Ser Ala Tyr  
 20 25 30  
 Val Leu Val Thr Cys Gly Gln Met Ser Ser Glu Gly Lys Ile Gln Val  
 35 40 45  
 Glu Met Thr Tyr Glu Gly Asp Pro Ala Val Ile Ser Tyr Leu Leu Thr  
 50 55 60

Lys Ala Arg Asp Ser Leu Asp Glu Ser  
65 70

<210> 1009  
<211> 440  
<212> PRT  
<213> Chlamydia pneumoniae

<400> 1009  
Val Leu Asn Tyr Ser Phe Ile Gly Met Leu Lys Pro Met Tyr Val Leu  
1 5 10 15  
Ser Lys Arg Leu Tyr Arg Trp Val Asn Gln Leu Ile Lys Leu Gly Asp  
20 25 30  
Leu Val Lys Asn Ser Arg Ser Phe Ser Val Glu Trp Val Phe Ile Ser  
35 40 45  
Ala Leu Leu Leu Ile Phe Gly Cys Leu Gly Cys Ala Ser Val Val Lys  
50 55 60  
Val Ser Leu Val Pro Phe Leu Leu Leu Phe Ser Phe Leu Ala Phe Pro  
65 70 75 80  
Leu Ile Leu Cys Phe Arg Gly Lys Gly Tyr Ala Leu Leu Leu Gly Val  
85 90 95  
Phe Val Thr Leu Tyr Val Ala Lys Tyr Val Val Gly Glu Thr Leu Tyr  
100 105 110  
Val Ser Phe Trp Leu Ser Gly Leu Gly Val Ser Phe Leu Leu Ala Phe  
115 120 125  
Gly Leu Phe Leu Gln Gly Val Trp Leu Ala Gln Glu Glu Glu Met Val  
130 135 140  
Lys Gly Lys Glu Gln Leu Arg Leu Ser Glu Asp Leu Asp Ala Gln Arg  
145 150 155 160  
Ser Ala Tyr Glu Asp Leu Leu Leu Thr Lys Ser Gln Glu Lys Glu Phe  
165 170 175  
Leu Asp Ala Arg Ala Gln Gly Leu Asp Arg Glu Leu Thr Glu Cys Gln  
180 185 190  
Glu Leu Leu Lys Ala Ala Tyr Gln Lys Gln Glu Tyr Leu Thr Ile Asp  
195 200 205  
Leu Lys Ile Leu Ala Asp Gln Lys Asn Ser Trp Leu Glu Asp Tyr Ala  
210 215 220  
Glu Leu His Asn Lys Tyr Ile Glu Leu Val Ser Lys Asn Gly Asp Val  
225 230 235 240  
Val Phe Pro Trp Val Ala Glu Pro Ser Val Gly Glu Ser Gln Gly Ser  
245 250 255  
Glu Arg Val Asp Val Ser Arg Trp Val Ser Ala Leu Gln Glu Lys Glu  
260 265 270  
Glu Ser Leu Glu Arg Leu Arg Asn Glu Ile Leu Val Glu Lys Gln Arg  
275 280 285  
Cys Ser Asp Tyr Glu His Arg Cys Gln Glu Leu Gly Leu Leu Leu Gln  
290 295 300  
Asn Phe Thr Ala Leu Glu Arg Arg Cys Glu Glu Leu Gln Asn Leu Leu  
305 310 315 320  
Asn Gln Lys Glu Thr Gln Ile Asn Glu Leu His Gln Leu Val Cys Lys  
325 330 335  
Ser Glu Glu Lys Val Ser Val Glu Pro Ser Ala His Ala Glu Thr Ser  
340 345 350  
Cys Val Glu Glu Lys Gln Tyr Lys Gly Leu Tyr Ser Gln Leu Gln Glu  
355 360 365  
Gln Phe Leu Glu Lys Ser Glu Thr Leu Ser Leu Val Arg Lys Lys Leu  
370 375 380  
Phe Ala Val Gln Glu Lys Tyr Leu Thr Leu Lys Lys Lys Glu Glu Leu  
385 390 395 400  
Thr Lys Gln Asp Ile Ser Phe Asp Asp Ile Ser Met Ile Gln Gly Leu  
405 410 415

Leu Glu Arg Ile Glu Ile Leu Glu Glu Glu Val Ser His Leu Glu Glu  
 420 425 430  
 Leu Val Ser Arg Ser Leu Ser Leu  
 435 440

<210> 1010  
 <211> 300  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 1010  
 Tyr Arg Leu Leu His Arg Val Ile Leu Met Lys Arg Asn Asp Pro Cys  
 1 5 10 15  
 Trp Cys Gly Ser Gly Arg Lys Trp Lys Gln Cys His Tyr Pro Gln Pro  
 20 25 30  
 Pro Lys Met Ser Pro Glu Ala Leu Lys Gln His Tyr Ala Ser Gln Tyr  
 35 40 45  
 Asn Ile Leu Leu Lys Thr Pro Glu Gln Lys Ala Lys Ile Tyr Asn Ala  
 50 55 60  
 Cys Gln Ile Thr Ala Arg Ile Leu Asp Glu Leu Cys Lys Ala Ser Gln  
 65 70 75 80  
 Lys Gly Val Thr Thr Asn Glu Leu Asp Glu Leu Ser Gln Glu Leu His  
 85 90 95  
 Lys Lys Tyr Asp Ala Ile Ala Ala Pro Phe His Tyr Gly Ser Pro Pro  
 100 105 110  
 Phe Pro Lys Thr Ile Cys Thr Ser Leu Asn Glu Val Ile Cys His Gly  
 115 120 125  
 Ile Pro Asn Asp Ile Pro Leu Lys Asp Gly Asp Ile Met Asn Ile Asp  
 130 135 140  
 Val Ser Cys Ile Val Asp Gly Tyr Tyr Gly Asp Cys Ser Arg Met Val  
 145 150 155 160  
 Met Ile Gly Glu Val Pro Glu Ile Lys Lys Lys Ile Cys Gln Ala Ala  
 165 170 175  
 Leu Glu Cys Leu Asn Asp Ser Ile Ala Ile Leu Lys Pro Gly Ile Pro  
 180 185 190  
 Leu Cys Glu Ile Gly Glu Ala Ile Glu Ala Arg Ala Asp Thr Tyr Gly  
 195 200 205  
 Phe Ser Val Val Asp Gln Phe Val Gly His Gly Val Gly Ile Glu Phe  
 210 215 220  
 His Glu Asn Pro Tyr Val Pro His Tyr Arg Asn Arg Ser Met Ile Pro  
 225 230 235 240  
 Leu Ala Pro Gly Met Ile Phe Thr Ile Glu Pro Met Ile Asn Val Gly  
 245 250 255  
 Lys Lys Glu Gly Val Val Asp Pro Lys Asn Gln Trp Glu Ala Arg Thr  
 260 265 270  
 Cys Asp Asn Gln Pro Ser Ala Gln Trp Glu His Thr Ile Ala Ile Thr  
 275 280 285  
 Glu Thr Gly Tyr Glu Ile Leu Thr Leu Leu Asn Asp  
 290 295 300

<210> 1011  
 <211> 203  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 1011  
 Val Met Leu Ile Leu Leu Asn Leu Ser Leu Leu Phe Tyr Val Leu Phe  
 1 5 10 15  
 Asp Ser Pro Gly Ser Ile Pro Val Phe Val Ala Leu Leu Lys Asn Phe  
 20 25 30

Ser Arg Lys Lys Gln Gln Arg Val Ile Leu Arg Glu Cys Leu Phe Ala  
 35 40 45  
 Leu Gly Ala Leu Ile Leu Phe Val Thr Phe Gly Arg Ser Phe Phe Gln  
 50 55 60  
 Phe Leu Asp Ile Ser Leu Tyr Ala Phe Gln Ile Ile Gly Gly Phe Leu  
 65 70 75 80  
 Leu Phe Thr Val Ser Ile Lys Met Met Leu Ala Pro Met Pro Glu Lys  
 85 90 95  
 Ala Lys Asp Asp Thr Ser Lys Thr Glu Pro Ile Phe Phe Pro Leu Ala  
 100 105 110  
 Phe Pro Val Ile Thr Gly Pro Ala Val Ile Thr Ala Leu Leu Ser Tyr  
 115 120 125  
 Met Glu Glu Gly Ile Tyr Ser Arg Glu Ile Ile Phe Thr Ala Met Ile  
 130 135 140  
 Ile Ala Trp Ala Phe Ser Leu Phe Thr Leu Leu Cys Ser Ser Phe Phe  
 145 150 155 160  
 Asp Arg Leu Phe Gly Asn Phe Gly Leu Leu Ala Leu Glu Arg Leu Phe  
 165 170 175  
 Gly Ile Ala Leu Leu Met Ser Val Asn Leu Met Leu Lys Gly Ile  
 180 185 190  
 Ser Ile Ala Phe Asn Ile Gly Phe Tyr Ile Gly  
 195 200

<210> 1012  
 <211> 136  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 1012  
 Glu Met Arg Leu Lys Asn Tyr Pro Met Ile Gln Phe Ser Phe Phe Leu  
 1 5 10 15  
 Pro Gln Thr Cys Ile Leu Leu Leu Ala Ser Asp Ser Leu Thr Asn Ile  
 20 25 30  
 Leu Ala Leu His His Leu Leu Ala Asn Tyr Ser Val Lys Gln Arg Met  
 35 40 45  
 Leu Val Leu Leu Arg Glu Ser Phe Phe Ala Phe Ile Ala Met Phe Ala  
 50 55 60  
 Leu Tyr Gly Leu Ala Leu Gly Gly Leu Lys Val Leu Asn Thr Pro Val  
 65 70 75 80  
 Cys Ala Ile Glu Val Val Gly Gly Ile Ala Val Thr Leu Ala Gly Val  
 85 90 95  
 Arg Ala Val Leu Arg Leu Gly Lys Glu Ser Trp Ile Pro Tyr Lys  
 100 105 110  
 Phe Asn Met Ser Pro Ser Tyr Ser Pro Cys Ile Ser Pro Ile Ala Leu  
 115 120 125  
 Pro Leu Met Phe Gly Pro Ser Gly  
 130 135

<210> 1013  
 <211> 600  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 1013  
 Ala Ile Phe Ser Leu Ile Thr Ser Lys Met Lys Lys Lys Phe Ile Phe  
 1 5 10 15  
 Tyr Phe Val Ile Val Phe Ser Leu Leu Phe Leu Trp Glu Met Thr Ser  
 20 25 30  
 Arg His Arg Pro Thr Phe Ser Phe Phe Cys Pro Pro Pro Ser Ser Ile  
 35 40 45

Ala	Ser	Ser	Thr	Leu	Gln	Ser	Leu	Pro	Leu	Leu	Leu	Thr	Ser	Ala	Trp
50						55				60					
His	Thr	Leu	Lys	Ala	Ile	Leu	Gly	Gly	Phe	Phe	Leu	Ala	Ile	Thr	Leu
65					70					75					80
Ser	Ile	Val	Leu	Ala	Thr	Ile	Met	Leu	Ser	Tyr	Lys	Ser	Ala	Lys	Asp
				85				90						95	
Leu	Leu	Gln	Pro	Leu	Phe	Ile	Leu	Leu	Gln	Cys	Thr	Pro	Met	Phe	Ala
			100					105					110		
Leu	Ala	Pro	Leu	Ile	Val	Leu	Trp	Phe	Gly	Trp	Gly	Ile	Gly	Ala	Val
		115					120					125			
Ile	Val	Pro	Thr	Ala	Leu	Thr	Ile	Phe	Phe	Pro	Leu	Thr	Leu	Thr	Ile
	130					135					140				
Tyr	Gln	Gly	Ile	Leu	Ser	Thr	Pro	Glu	Glu	Leu	Ile	Glu	Gln	Phe	Val
145					150					155					160
Leu	Cys	Gly	Ala	Thr	Lys	Phe	Gln	Leu	Leu	Ile	Lys	Leu	Arg	Ile	Pro
				165				170						175	
His	Ala	Leu	Pro	His	Ile	Phe	Ser	Gly	Leu	Lys	Ile	Ala	Ile	Gly	Ser
			180					185					190		
Ala	Gly	Phe	Ala	Ala	Ile	Ala	Gly	Glu	Trp	Val	Ala	Ser	Gln	Ser	Gly
		195					200					205			
Leu	Gly	Ile	Leu	Met	Leu	Glu	Ser	Arg	Arg	Asn	Tyr	Glu	Met	Glu	Leu
	210					215					220				
Ala	Phe	Ala	Gly	Leu	Ala	Thr	Leu	Ser	Ile	Leu	Thr	Leu	Ser	Leu	Phe
225					230					235					240
Gln	Ile	Thr	Leu	Leu	Ile	Glu	Lys	Leu	Ile	Phe	Ser	Leu	Phe	Arg	Val
				245				250						255	
Lys	Arg	Met	Ser	Leu	Lys	His	Lys	Ser	Val	Ala	Lys	Lys	Ala	Leu	Ser
			260					265					270		
Val	Leu	Ala	Leu	Ile	Pro	Ile	Met	Leu	Ile	Pro	Trp	Lys	Gly	Asn	Ser
		275					280					285			
Lys	Ser	Pro	Pro	Asp	Lys	Lys	Asn	Leu	Thr	Ser	Leu	Thr	Leu	Leu	Leu
	290					295					300				
Asp	Trp	Thr	Pro	Asn	Pro	Asn	His	Ile	Pro	Leu	Tyr	Ala	Gly	Val	Ala
305				310						315					320
Lys	Gly	Tyr	Phe	Lys	Gln	His	Gly	Leu	Asp	Leu	Gln	Leu	Gln	Lys	Asn
				325				330						335	
Thr	Asp	Ser	Ser	Ala	Val	Pro	His	Val	Leu	Phe	Glu	Gln	Val	Val	Asp
			340				345					350			
Met	Ala	Leu	Tyr	His	Ala	Leu	Gly	Ile	Met	Lys	Thr	Ser	Ile	Lys	Gly
		355					360					365			
Met	Pro	Ile	Gln	Ile	Val	Gly	Arg	Leu	Ile	Asp	Ser	Ser	Leu	Gln	Gly
	370					375					380				
Phe	Leu	Tyr	Arg	Ser	Gln	Asp	Pro	Ile	Tyr	Lys	Phe	Glu	Asp	Leu	Asn
385					390					395					400
Gly	Lys	Val	Leu	Gly	Phe	Cys	Leu	Asn	Asn	Ser	Arg	Asp	Leu	Asn	Arg
				405				410					415		
Leu	Leu	Glu	Thr	Leu	Asn	Arg	Asn	Gly	Val	Val	Pro	Ser	Glu	Val	Lys
			420					425					430		
Asn	Val	Ser	Ser	Asp	Leu	Ile	Ser	Pro	Met	Leu	Leu	Asn	Lys	Ile	Asp
		435					440					445			
Phe	Leu	Tyr	Gly	Ala	Phe	Tyr	Asn	Ile	Glu	Gly	Val	Lys	Leu	Gln	Thr
	450					455					460				
Leu	Gly	Met	Pro	Val	Lys	Cys	Phe	Leu	Ser	Asp	Thr	Cys	Asp	Leu	Pro
465					470					475					480
Thr	Gly	Pro	Gln	Leu	Ile	Val	Phe	Thr	Lys	Lys	Gly	Thr	Lys	Ala	Ser
				485				490						495	
Glu	Pro	Glu	Ile	Val	Glu	Ala	Phe	Gln	Lys	Ala	Leu	Gln	Glu	Ser	Ile
			500					505					510		
Ile	Phe	Ser	Lys	Asp	His	Pro	Glu	Asp	Ala	Phe	Lys	Leu	Tyr	Ala	Lys
		515					520					525			



Glu	Thr	Lys	Ser	Ile	Pro	Lys	Asn	Leu	Tyr	Gln	Glu	Tyr	Leu	Gln	Trp
530						535					540				
Glu	Glu	Thr	Phe	Pro	Leu	Leu	Ala	Gln	Ser	Gln	Asp	Pro	Leu	Ser	Lys
545					550					555					560
Asp	Leu	Val	Asp	Lys	Leu	Leu	Glu	Thr	Ile	Ile	Lys	Arg	Tyr	Pro	Glu
				565					570					575	
Leu	Ala	Ser	Glu	Val	Ala	Lys	Phe	Ser	Leu	Asn	Asp	Leu	Tyr	Asn	Pro
			580					585					590		
Ser	Leu	Pro	Glu	Glu	Gln	Ser	Val								
		595					600								

<210> 1014  
 <211> 472  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 1014

Arg	Glu	Asn	Ser	Leu	Asn	His	Arg	Gly	Asn	Ile	Asp	Met	Arg	Gln	Glu
1				5					10					15	
Lys	Asp	Ser	Leu	Gly	Ile	Val	Glu	Val	Pro	Glu	Asp	Lys	Leu	Tyr	Gly
			20					25					30		
Ala	Gln	Thr	Met	Arg	Ser	Arg	Asn	Phe	Phe	Ser	Trp	Gly	Pro	Glu	Leu
		35					40					45			
Met	Pro	Tyr	Glu	Val	Ile	Arg	Ala	Leu	Val	Trp	Ile	Lys	Lys	Cys	Ala
		50				55					60				
Ala	Gln	Ala	Asn	Gln	Asp	Leu	Gly	Phe	Leu	Asp	Ser	Lys	His	Cys	Asp
65				70						75					80
Met	Ile	Val	Ala	Ala	Asp	Glu	Ile	Leu	Glu	Gly	Gly	Phe	Glu	Glu	
				85				90					95		
His	Phe	Pro	Leu	Lys	Val	Trp	Gln	Thr	Gly	Ser	Gly	Thr	Gln	Ser	Asn
			100					105					110		
Met	Asn	Val	Asn	Glu	Val	Ile	Ala	Asn	Leu	Ala	Ile	Arg	His	His	Gly
		115					120					125			
Gly	Val	Leu	Gly	Ser	Lys	Asp	Pro	Ile	His	Pro	Asn	Asp	His	Val	Asn
	130					135					140				
Lys	Ser	Gln	Ser	Ser	Asn	Asp	Val	Phe	Pro	Thr	Ala	Met	His	Ile	Ala
145					150					155					160
Ala	Val	Ile	Ser	Leu	Lys	Asn	Lys	Leu	Ile	Pro	Ala	Leu	Asp	His	Met
				165				170						175	
Ile	Arg	Val	Leu	Asp	Ala	Lys	Val	Glu	Glu	Phe	Arg	His	Asp	Val	Lys
			180					185					190		
Ile	Gly	Arg	Thr	His	Leu	Met	Asp	Ala	Val	Pro	Met	Thr	Leu	Gly	Gln
		195					200					205			
Glu	Phe	Ser	Gly	Tyr	Ser	Ser	Gln	Leu	Arg	His	Cys	Leu	Glu	Ser	Ile
		210				215					220				
Ala	Phe	Ser	Leu	Ala	His	Leu	Tyr	Glu	Leu	Ala	Ile	Gly	Ala	Thr	Ala
225					230					235					240
Val	Gly	Thr	Gly	Leu	Asn	Val	Pro	Glu	Gly	Phe	Val	Glu	Lys	Ile	Ile
				245					250					255	
His	Tyr	Leu	Arg	Lys	Glu	Thr	Asp	Glu	Pro	Phe	Ile	Pro	Ala	Ser	Asn
			260					265					270		
Tyr	Phe	Ser	Ala	Leu	Ser	Cys	His	Asp	Ala	Leu	Val	Asp	Ala	His	Gly
		275					280					285			
Ser	Leu	Ala	Thr	Leu	Ala	Cys	Ala	Leu	Thr	Lys	Ile	Ala	Thr	Asp	Leu
		290				295					300				
Ser	Phe	Leu	Gly	Ser	Gly	Pro	Arg	Cys	Gly	Leu	Gly	Glu	Leu	Phe	Phe
305					310					315					320
Pro	Glu	Asn	Glu	Pro	Gly	Ser	Ser	Ile	Met	Pro	Gly	Lys	Val	Asn	Pro
				325					330					335	
Thr	Gln	Cys	Glu	Ala	Leu	Gln	Met	Val	Cys	Ala	Gln	Val	Leu	Gly	Asn
			340					345					350		

Asn	Gln	Thr	Val	Ile	Ile	Gly	Gly	Ser	Arg	Gly	Asn	Phe	Glu	Leu	Asn
		355					360					365			
Val	Met	Lys	Pro	Val	Ile	Ile	Tyr	Asn	Phe	Leu	Gln	Ser	Val	Asp	Leu
	370					375					380				
Leu	Ser	Glu	Gly	Met	Arg	Ala	Phe	Ser	Glu	Phe	Phe	Val	Lys	Gly	Leu
385					390					395					400
Lys	Val	Asn	Lys	Ala	Arg	Leu	Gln	Asp	Asn	Ile	Asn	Asn	Ser	Leu	Met
				405					410					415	
Leu	Val	Thr	Ala	Leu	Ala	Pro	Val	Leu	Gly	Tyr	Asp	Lys	Cys	Ser	Lys
			420					425					430		
Ala	Ala	Leu	Lys	Ala	Phe	His	Glu	Ser	Ile	Ser	Leu	Lys	Glu	Ala	Cys
		435					440					445			
Leu	Ala	Leu	Gly	Tyr	Leu	Ser	Glu	Lys	Glu	Phe	Asp	Arg	Leu	Val	Val
	450					455					460				
Pro	Glu	Asn	Met	Val	Gly	Asn	His								
465					470										

<210> 1015

<211> 575

<212> PRT

<213> Chlamydia pneumoniae

<400> 1015

Ala	Leu	Ala	Ser	Thr	Leu	Gly	Tyr	Cys	Ile	Val	Lys	Val	Pro	Trp	Ala
1				5					10					15	
Phe	Lys	Asn	Phe	Ile	Pro	Lys	Leu	Tyr	Thr	Ser	Ile	Lys	Glu	Gly	Tyr
		20						25					30		
Ser	Phe	Asn	Thr	Phe	Lys	Lys	Asp	Phe	Gln	Ala	Gly	Ile	Thr	Val	Gly
		35					40					45			
Ile	Leu	Ala	Phe	Pro	Phe	Ala	Ile	Ala	Ile	Ala	Ile	Gly	Val	Gly	Val
	50					55					60				
Ser	Pro	Ile	Gln	Gly	Leu	Leu	Ala	Ser	Ile	Ile	Gly	Gly	Leu	Leu	Ala
65					70					75					80
Ser	Ala	Met	Gly	Gly	Ser	Asn	Val	Leu	Ile	Ser	Gly	Pro	Ser	Ser	Ala
			85						90				95		
Phe	Ile	Ser	Ile	Leu	Tyr	Cys	Leu	Ser	Ala	Lys	Tyr	Gly	Ala	Glu	Ala
			100					105					110		
Leu	Phe	Thr	Val	Thr	Leu	Leu	Ala	Gly	Val	Phe	Leu	Ile	Ala	Phe	Gly
		115					120					125			
Leu	Thr	Gly	Leu	Gly	Thr	Phe	Ile	Lys	Tyr	Met	Pro	Tyr	Pro	Val	Val
	130					135					140				
Thr	Gly	Leu	Thr	Thr	Gly	Leu	Ala	Ile	Ile	Ile	Phe	Ser	Ser	Gln	Ile
145					150					155					160
Lys	Asp	Phe	Leu	Gly	Leu	Gln	Met	Gly	Ala	Asn	Ile	Pro	Ala	Asp	Phe
			165						170					175	
Leu	Pro	Lys	Trp	Ile	Ala	Tyr	Trp	Asp	His	Leu	Trp	Thr	Trp	Asp	Ser
			180					185					190		
Lys	Ser	Phe	Ala	Val	Gly	Leu	Phe	Thr	Leu	Leu	Ile	Met	Ile	Tyr	Phe
		195					200					205			
Arg	Asn	Tyr	Lys	Pro	Arg	Tyr	Pro	Gly	Val	Met	Ile	Ala	Ile	Val	Thr
	210					215					220				
Ala	Thr	Thr	Leu	Val	Trp	Leu	Leu	Lys	Ile	Asp	Ile	Pro	Thr	Ile	Gly
225					230					235					240
Ser	Arg	Tyr	Gly	Thr	Leu	Pro	Thr	Ala	Ile	Pro	Leu	Pro	Lys	Ile	Pro
				245					250					255	
Gln	Leu	Ser	Ile	Thr	Lys	Ile	Leu	Gln	Leu	Met	Pro	Asp	Ala	Leu	Thr
			260					265					270		
Ile	Ala	Val	Leu	Ser	Gly	Leu	Glu	Thr	Leu	Leu	Ser	Ala	Val	Val	Ala
		275					280					285			
Asp	Gly	Met	Thr	Gly	Trp	Arg	His	Gln	Ser	Asn	Cys	Gln	Leu	Val	Ala
	290					295					300				

Gln	Gly	Val	Ala	Asn	Ile	Gly	Thr	Ser	Leu	Phe	Ser	Gly	Ile	Pro	Val
305					310					315					320
Thr	Gly	Ser	Leu	Ser	Arg	Thr	Ala	Ala	Ser	Ile	Lys	Ser	Glu	Ala	Thr
				325					330					335	
Thr	Pro	Ile	Ala	Gly	Ile	Val	His	Ser	Ile	Phe	Ile	Cys	Phe	Ile	Leu
			340					345					350		
Leu	Leu	Leu	Ala	Pro	Leu	Thr	Val	Lys	Ile	Pro	Leu	Thr	Cys	Leu	Ala
		355					360					365			
Ala	Val	Leu	Ile	Leu	Ile	Ala	Trp	Asn	Met	Ser	Glu	Ile	His	His	Phe
	370					375					380				
Ile	His	Leu	Phe	Thr	Ala	Pro	Lys	Lys	Asp	Ile	Val	Val	Leu	Leu	Thr
385					390					395					400
Val	Phe	Ile	Leu	Thr	Val	Met	Thr	Thr	Ile	Thr	Ala	Ala	Val	Gln	Val
				405					410					415	
Gly	Met	Met	Leu	Ala	Ala	Phe	Leu	Phe	Met	Lys	Gln	Met	Ser	Asp	Leu
			420					425					430		
Ser	Asp	Val	Ile	Ser	Thr	Ala	Lys	Tyr	Phe	Asp	Lys	Asp	Ser	Asp	Phe
	435					440						445			
Leu	Ser	Lys	Ala	Glu	Val	Pro	Gln	Asn	Thr	Glu	Ile	Tyr	Glu	Ile	Asn
	450					455					460				
Gly	Pro	Phe	Phe	Phe	Gly	Ile	Ala	Asp	Arg	Leu	Lys	Asn	Leu	Leu	Asn
465					470					475					480
Asp	Ile	Glu	Lys	Pro	Pro	Lys	Ile	Phe	Ile	Leu	Cys	Met	Thr	Arg	Val
				485					490					495	
Pro	Thr	Ile	Asp	Ala	Ser	Ala	Met	His	Ala	Leu	Glu	Glu	Phe	Phe	Leu
			500					505					510		
Glu	Cys	Asp	Arg	Gln	Gly	Thr	Leu	Leu	Leu	Leu	Ala	Gly	Val	Lys	Lys
		515					520					525			
Thr	Pro	Leu	Ala	Asp	Leu	Lys	Arg	Tyr	His	Leu	Asp	Glu	Leu	Ile	Gly
	530					535					540				
Val	Asp	His	Ile	Phe	Ser	Asn	Ile	Lys	Ser	Ala	Leu	Leu	Phe	Ala	Gln
545					550					555					560
Ala	Leu	Thr	Asn	Leu	Glu	Ser	Lys	Thr	Ser	Thr	Arg	His	Leu	Val	
			565						570					575	

<210> 1016  
 <211> 448  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 1016

Lys	Asn	Asn	Tyr	Lys	Asn	Phe	Ser	Phe	Phe	Thr	Ser	Val	Arg	Val	Arg
1				5					10					15	
Ser	Lys	Val	Asp	His	Glu	Ile	Ile	Leu	Glu	Val	Thr	Met	Leu	Lys	Leu
			20					25					30		
Gln	Leu	Cys	Ala	Leu	Phe	Leu	Phe	Gly	Tyr	Leu	Ala	Ile	Val	Phe	Glu
		35					40					45			
His	Ile	Val	Arg	Val	Asn	Lys	Ser	Ala	Ile	Ala	Leu	Ala	Met	Gly	Gly
	50					55					60				
Leu	Met	Trp	Leu	Val	Cys	Phe	Ser	His	Ile	Pro	Met	Ala	Asp	His	Met
65					70					75				80	
Ile	Leu	Val	Glu	Glu	Ile	Ala	Asp	Met	Ser	Gln	Val	Ile	Phe	Phe	Leu
			85					90					95		
Phe	Ser	Ala	Met	Ala	Ile	Val	Glu	Leu	Ile	Asp	Ala	His	Lys	Gly	Phe
			100					105					110		
Ser	Val	Ile	Val	Lys	Phe	Cys	Arg	Ile	Gln	Ser	Arg	Thr	Leu	Leu	Leu
		115					120					125			
Trp	Ala	Leu	Ile	Gly	Leu	Ser	Phe	Phe	Leu	Ser	Ala	Ala	Leu	Asp	Asn
	130					135					140				
Leu	Thr	Ser	Ile	Ile	Ile	Ile	Ile	Ser	Ile	Leu	Lys	Arg	Leu	Val	Lys
145					150					155					160

Ala	Arg	Glu	Asp	Arg	Leu	Leu	Leu	Gly	Ala	Ile	Cys	Val	Ile	Ala	Val
				165					170					175	
Asn	Ala	Gly	Gly	Ala	Trp	Thr	Pro	Leu	Gly	Asp	Val	Thr	Thr	Thr	Met
			180					185					190		
Leu	Trp	Ile	Asn	Asn	Lys	Ile	Thr	Ser	Trp	Gly	Ile	Ile	Arg	Ala	Leu
		195					200					205			
Phe	Val	Pro	Ser	Leu	Val	Cys	Val	Leu	Val	Ala	Gly	Phe	Cys	Gly	Gln
	210					215					220				
Phe	Phe	Leu	Arg	Lys	Arg	Gly	Ser	Thr	Leu	Ile	Ala	Lys	Asp	Val	Glu
225					230					235					240
Leu	Gln	Ser	Ala	Pro	Pro	Lys	Ser	Leu	Trp	Ile	Ile	Phe	Ile	Gly	Leu
				245					250					255	
Gly	Ser	Leu	Leu	Met	Val	Pro	Val	Trp	Lys	Ala	Cys	Leu	Gly	Leu	Pro
			260					265					270		
Pro	Phe	Met	Gly	Ala	Leu	Leu	Gly	Leu	Gly	Leu	Val	Trp	Leu	Thr	Ser
		275					280					285			
Asp	Trp	Ile	His	Ser	Pro	His	Gly	Glu	Asp	Arg	Tyr	His	Leu	Arg	Val
	290					295					300				
Pro	His	Ile	Leu	Thr	Lys	Ile	Asp	Ile	Ser	Ser	Ile	Thr	Phe	Phe	Ile
305					310					315					320
Gly	Ile	Leu	Leu	Ala	Val	Asn	Ala	Leu	Ser	Phe	Ala	Asn	Leu	Leu	Thr
				325					330					335	
Asp	Phe	Ser	Leu	Trp	Met	Asp	Lys	Ile	Phe	Ser	Arg	Asn	Val	Val	Ala
			340					345					350		
Ile	Val	Ile	Gly	Leu	Leu	Ser	Ser	Val	Leu	Asp	Asn	Val	Pro	Leu	Val
		355					360					365			
Ala	Ala	Thr	Met	Gly	Met	Tyr	Thr	Leu	Pro	Leu	Asp	Asp	Thr	Leu	Trp
	370					375					380				
Lys	Leu	Ile	Ala	Tyr	Ala	Ala	Gly	Thr	Gly	Gly	Ser	Ile	Leu	Ile	Ile
385					390					395					400
Gly	Ser	Ala	Ala	Gly	Val	Ala	Phe	Met	Gly	Leu	Glu	Lys	Val	Asp	Phe
				405					410					415	
Leu	Trp	Tyr	Phe	Lys	Arg	Ile	Ser	Trp	Ile	Ala	Leu	Ala	Ser	Tyr	Phe
			420					425					430		
Gly	Gly	Leu	Phe	Ser	Tyr	Phe	Val	Leu	Glu	Ser	Leu	Asn	Phe	Phe	Ile
		435					440					445			

<210> 1017

<211> 624

<212> PRT

<213> Chlamydia pneumoniae

<400> 1017

Lys	Arg	Glu	Val	Phe	Met	Lys	Lys	Gly	Lys	Leu	Gly	Ala	Ile	Val	Phe
1				5					10					15	
Gly	Leu	Leu	Phe	Thr	Ser	Ser	Val	Ala	Gly	Phe	Ser	Lys	Asp	Leu	Thr
			20					25					30		
Lys	Asp	Asn	Ala	Tyr	Gln	Asp	Leu	Asn	Val	Ile	Glu	His	Leu	Ile	Ser
		35					40					45			
Leu	Lys	Tyr	Ala	Pro	Leu	Pro	Trp	Lys	Glu	Leu	Leu	Phe	Gly	Trp	Asp
	50					55					60				
Leu	Ser	Gln	Gln	Thr	Gln	Gln	Ala	Arg	Leu	Gln	Leu	Val	Leu	Glu	Glu
65					70					75					80
Lys	Pro	Thr	Thr	Asn	Tyr	Cys	Gln	Lys	Val	Leu	Ser	Asn	Tyr	Val	Arg
				85					90					95	
Ser	Leu	Asn	Asp	Tyr	His	Ala	Gly	Ile	Thr	Phe	Tyr	Arg	Thr	Glu	Ser
			100					105					110		
Ala	Tyr	Ile	Pro	Tyr	Val	Leu	Lys	Leu	Ser	Glu	Asp	Gly	His	Val	Phe
		115					120					125			
Val	Val	Asp	Val	Gln	Thr	Ser	Gln	Gly	Asp	Ile	Tyr	Leu	Gly	Asp	Glu
		130					135					140			

Ile Leu Glu Val Asp Gly Met Gly Ile Arg Glu Ala Ile Glu Ser Leu  
 145 150 155 160  
 Arg Phe Gly Arg Gly Ser Ala Thr Asp Tyr Ser Ala Ala Val Arg Ser  
 165 170 175  
 Leu Thr Ser Arg Ser Ala Ala Phe Gly Asp Ala Val Pro Ser Gly Ile  
 180 185 190  
 Ala Met Leu Lys Leu Arg Arg Pro Ser Gly Leu Ile Arg Ser Thr Pro  
 195 200 205  
 Val Arg Trp Arg Tyr Thr Pro Glu His Ile Gly Asp Phe Ser Leu Val  
 210 215 220  
 Ala Pro Leu Ile Pro Glu His Lys Pro Gln Leu Pro Thr Gln Ser Cys  
 225 230 235 240  
 Val Leu Phe Arg Ser Gly Val Asn Ser Gln Ser Ser Ser Ser Ser Leu  
 245 250 255  
 Phe Ser Ser Tyr Met Val Pro Tyr Phe Trp Glu Glu Leu Arg Val Gln  
 260 265 270  
 Asn Lys Gln Arg Phe Asp Ser Asn His His Ile Gly Ser Arg Asn Gly  
 275 280 285  
 Phe Leu Pro Thr Phe Gly Pro Ile Leu Trp Glu Gln Asp Lys Gly Pro  
 290 295 300  
 Tyr Arg Ser Tyr Ile Phe Lys Ala Lys Asp Ser Gln Gly Asn Pro His  
 305 310 315 320  
 Arg Ile Gly Phe Leu Arg Ile Ser Ser Tyr Val Trp Thr Asp Leu Glu  
 325 330 335  
 Gly Leu Glu Glu Asp His Lys Asp Ser Pro Trp Glu Leu Phe Gly Glu  
 340 345 350  
 Ile Ile Asp His Leu Glu Lys Glu Thr Asp Ala Leu Ile Ile Asp Gln  
 355 360 365  
 Thr His Asn Pro Gly Gly Ser Val Phe Tyr Leu Tyr Ser Leu Leu Ser  
 370 375 380  
 Met Leu Thr Asp His Pro Leu Asp Thr Pro Lys His Arg Met Ile Phe  
 385 390 395 400  
 Thr Gln Asp Glu Val Ser Ser Ala Leu His Trp Gln Asp Leu Leu Glu  
 405 410 415  
 Asp Val Phe Thr Asp Glu Gln Ala Val Ala Val Leu Gly Glu Thr Met  
 420 425 430  
 Glu Gly Tyr Cys Met Asp Met His Ala Val Ala Ser Leu Gln Asn Phe  
 435 440 445  
 Ser Gln Ser Val Leu Ser Ser Trp Val Ser Gly Asp Ile Asn Leu Ser  
 450 455 460  
 Lys Pro Met Pro Leu Leu Gly Phe Ala Gln Val Arg Pro His Pro Lys  
 465 470 475 480  
 His Gln Tyr Thr Lys Pro Leu Phe Met Leu Ile Asp Glu Asp Asp Phe  
 485 490 495  
 Ser Cys Gly Asp Leu Ala Pro Ala Ile Leu Lys Asp Asn Gly Arg Ala  
 500 505 510  
 Thr Leu Ile Gly Lys Pro Thr Ala Gly Ala Gly Gly Phe Val Phe Gln  
 515 520 525  
 Val Thr Phe Pro Asn Arg Ser Gly Ile Lys Gly Leu Ser Leu Thr Gly  
 530 535 540  
 Ser Leu Ala Val Arg Lys Asp Gly Glu Phe Ile Glu Asn Leu Gly Val  
 545 550 555 560  
 Ala Pro His Ile Asp Leu Gly Phe Thr Ser Arg Asp Leu Gln Thr Ser  
 565 570 575  
 Arg Phe Thr Asp Tyr Val Glu Ala Val Lys Thr Ile Val Leu Thr Ser  
 580 585 590  
 Leu Ser Glu Asn Ala Lys Lys Ser Glu Glu Gln Thr Ser Pro Gln Glu  
 595 600 605  
 Thr Pro Glu Val Ile Arg Val Ser Tyr Pro Thr Thr Thr Ser Ala Ser  
 610 615 620

<210> 1018  
 <211> 313  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 1018  
 Val Ile Ile Met Arg Lys Leu Ile Leu Cys Asn Pro Arg Gly Phe Cys  
 1 5 10 15  
 Ser Gly Val Val Arg Ala Ile Gln Val Val Glu Val Ala Leu Glu Lys  
 20 25 30  
 Trp Gly Ala Pro Ile Tyr Val Lys His Glu Ile Val His Asn Arg His  
 35 40 45  
 Val Val Asn Ala Leu Arg Ala Lys Gly Ala Ile Phe Val Glu Glu Leu  
 50 55 60  
 Val Asp Val Pro Glu Gly Glu Arg Val Ile Tyr Ser Ala His Gly Ile  
 65 70 75 80  
 Pro Pro Ser Val Arg Ala Glu Ala Lys Ala Arg Lys Leu Ile Asp Ile  
 85 90 95  
 Asp Ala Thr Cys Gly Leu Val Thr Lys Val His Ser Ala Ala Lys Leu  
 100 105 110  
 Tyr Ala Ser Lys Gly Tyr Lys Ile Ile Leu Ile Gly His Lys Lys His  
 115 120 125  
 Val Glu Val Ile Gly Ile Val Gly Glu Val Pro Glu His Ile Thr Val  
 130 135 140  
 Val Glu Lys Val Ala Asp Val Glu Ala Leu Pro Phe Ser Ser Asp Thr  
 145 150 155 160  
 Pro Leu Phe Tyr Ile Thr Gln Thr Thr Leu Ser Leu Asp Asp Val Gln  
 165 170 175  
 Glu Ile Ser Ser Ala Leu Leu Lys Arg Tyr Pro Ser Ile Ile Thr Leu  
 180 185 190  
 Pro Ser Ser Ser Ile Cys Tyr Ala Thr Thr Asn Arg Gln Lys Ala Leu  
 195 200 205  
 Arg Ser Val Leu Ser Arg Val Asn Tyr Val Tyr Val Val Gly Asp Val  
 210 215 220  
 Asn Ser Ser Asn Ser Asn Arg Leu Arg Glu Val Ala Leu Arg Arg Gly  
 225 230 235 240  
 Val Pro Ala Asp Leu Ile Asn Asn Pro Glu Asp Ile Asp Thr Asn Ile  
 245 250 255  
 Val Asn His Ser Gly Asp Ile Ala Met Thr Ala Gly Ala Ser Thr Pro  
 260 265 270  
 Glu Asp Val Val Gln Ala Cys Ile Arg Lys Leu Ser Ser Leu Ile Pro  
 275 280 285  
 Gly Leu Gln Val Glu Asn Asp Ile Phe Ala Val Glu Asp Val Val Phe  
 290 295 300  
 Gln Leu Pro Lys Glu Leu Arg Cys Ser  
 305 310

<210> 1019  
 <211> 245  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 1019  
 Arg Met Ser Tyr Phe Asn Tyr Gln Lys Asn Ser Val Val Leu Arg Ser  
 1 5 10 15  
 Leu Gly Leu Leu Ala Lys Phe Phe Ser Arg Leu Leu Tyr Arg Val Phe  
 20 25 30  
 Phe Ser Phe Arg Glu Gly Ile Tyr Leu Phe Ser Ser Leu Tyr Leu Lys  
 35 40 45  
 Tyr Pro Arg Leu Phe Phe Tyr Asp Leu Gly Lys Tyr Val Tyr Ser Leu  
 50 55 60

Arg	His	Cys	Pro	Tyr	Ala	Lys	Leu	Gly	Arg	Leu	Pro	Gly	Ala	Ser	Leu
65					70					75					80
Leu	Lys	Glu	Gly	Asn	Val	Tyr	Gly	Glu	Thr	Pro	Trp	Ser	Val	Leu	Ala
				85					90					95	
Lys	Ile	Cys	Gln	Ala	Phe	Asp	Ile	Thr	Ser	Gln	Asp	Ile	Leu	Tyr	Asp
			100					105					110		
Leu	Gly	Cys	Gly	Leu	Gly	Lys	Val	Cys	Phe	Trp	Phe	Ser	His	Val	Val
		115					120					125			
Arg	Cys	Gln	Val	Ile	Gly	Ile	Asp	Asn	Gln	Pro	His	Phe	Ile	Arg	Phe
						135					140				
Ser	Ser	Asn	Met	His	Arg	Lys	Leu	Ser	Ser	Gly	Phe	Ala	Leu	Phe	Asp
145					150					155					160
Thr	Glu	Glu	Phe	Lys	Asn	Val	Val	Leu	Ser	Gln	Ala	Ser	Tyr	Val	Tyr
				165					170					175	
Phe	Tyr	Gly	Ser	Ser	Phe	Ser	Arg	Arg	Leu	Leu	Asn	Glu	Ile	Ile	Leu
			180					185					190		
Lys	Leu	Ser	Glu	Met	Ala	Pro	Gly	Ser	Val	Val	Ile	Ser	Ile	Ser	Phe
			195				200					205			
Pro	Leu	Asp	Ser	Phe	Ser	Arg	Gly	Lys	Glu	Cys	Phe	Phe	Thr	Glu	Lys
	210					215					220				
Ser	Cys	Ser	Val	Arg	Phe	Pro	Trp	Gly	Lys	Thr	Ile	Ala	Tyr	Lys	Asn
225					230					235					240
Ile	Arg	Lys	Gly	Ser											
				245											

<210> 1020

<211> 503

<212> PRT

<213> Chlamydia pneumoniae

<400> 1020

Ile	His	Arg	Arg	Asn	Ile	Met	Thr	Val	Ser	Tyr	Gln	Ser	Ile	Ser	Thr
1				5					10					15	
Pro	Pro	Pro	Glu	Gly	Glu	Phe	Asp	Ile	Phe	Val	Asp	Gly	Asn	Ala	Thr
			20					25					30		
Glu	Glu	Ala	Val	Val	Ala	Ala	Glu	Val	Gln	Val	Ala	Leu	Pro	Ala	Gly
		35					40					45			
Glu	Gln	Tyr	Ala	Met	Leu	Arg	Ala	Thr	Ser	Glu	Leu	Cys	Phe	Gly	Ile
	50					55					60				
Leu	Thr	Gln	Ser	Glu	Cys	Ala	Leu	Thr	Gln	Ala	Leu	Pro	Pro	Lys	Glu
65					70					75					80
Lys	Pro	Leu	Gln	Glu	Glu	Gln	Phe	Leu	Val	Lys	Asn	Gly	Ile	Leu	Met
			85						90					95	
Arg	Ser	Thr	Ser	Leu	Pro	Asn	Leu	Lys	Pro	Gly	Gln	Ser	Gln	Gln	Thr
			100					105					110		
Ser	Leu	Ala	Ser	His	Arg	Asn	Pro	Leu	Ala	Gln	Gln	Ser	Thr	Ser	Ser
		115						120				125			
Asn	Ser	Thr	Gly	Lys	Ala	Ser	Thr	Glu	Thr	Thr	Ser	Ser	Ser	Phe	Pro
		130				135					140				
Phe	Phe	Ser	Cys	Lys	Ala	Pro	Glu	Gly	Asp	Ser	Ser	Val	Asp	Lys	Thr
145					150					155					160
Phe	Thr	Val	Ser	Val	Gln	Thr	Pro	Lys	Ala	Gln	Glu	Gln	Gln	Glu	Ala
				165					170					175	
Ser	Ala	Ser	Gln	Ser	Gln	Ala	Gln	Phe	His	Val	Arg	Ser	Tyr	Ser	Ser
			180					185					190		
Ser	Thr	Ile	Lys	Glu	His	Ser	Ala	Lys	Glu	Lys	Val	Ser	Gln	Ser	Thr
		195					200					205			
Lys	Ser	Ala	Glu	Thr	Gln	Lys	His	Thr	Gln	Thr	Lys	Ser	Asp	Ala	Thr
	210					215					220				
Leu	Ser	Pro	Met	Ser	Leu	Tyr	Ser	Thr	Leu	His	Lys	Glu	Val	Pro	Gln
225					230					235					240

Ala Leu Ser Ser Thr Lys Ser Gln Gln Lys Asp Glu Glu His Arg Asp  
 245 250 255  
 Gln Arg Gln Gln Glu Gly Tyr Glu Gln Glu Gln Glu Glu Gly  
 260 265 270  
 Lys Lys Lys Thr Pro Trp Cys Thr Val Glu Ser Leu Gln Gln Thr Ser  
 275 280 285  
 Ser Ser Asn Gln Val Tyr Glu Ser Tyr Thr Pro Ile Ile Pro Asp Pro  
 290 295 300  
 Ile Val Glu Phe Ala Leu Ser Glu Ser Gln Leu Ser Val Leu Ala Gly  
 305 310 315 320  
 Lys Arg Val Thr Asn Leu Asp Val Leu Arg Ile Cys Thr Glu Leu Met  
 325 330 335  
 Lys Leu Met Leu Lys Ser Arg Ala Asn Asp Thr Met Thr Arg Leu Glu  
 340 345 350  
 Glu Arg Glu Leu Met Glu Arg Glu Ala His Glu Leu Ala Ala Ser Tyr  
 355 360 365  
 Ser Arg Gln Ala Lys Tyr Ala Arg Trp Leu Gly Ile Ala Thr Ala Thr  
 370 375 380  
 Leu Gly Ile Leu Gly Ala Ile Ala Pro Met Val Gly Glu Ile Ser Gly  
 385 390 395 400  
 Asp Ser Ile Leu Gly Phe Val Gln Arg Ile Ser Gly Arg Phe Lys Asp  
 405 410 415  
 Ala Thr Ala Lys Thr Phe Phe Lys Gly Ile Gly Lys Val Phe Thr Ser  
 420 425 430  
 Leu Ser Gln Leu Thr Glu Ala Ala Ser Lys Val His Glu Leu Ser Glu  
 435 440 445  
 Ser Ala Val Arg Ala Val Ala Glu Tyr Arg Lys Glu Val Phe Arg Met  
 450 455 460  
 Arg Gln Asp Glu Val Thr Arg Thr Ile Glu Glu Val Lys Asp Asn Trp  
 465 470 475 480  
 Lys Ser Met Asp Asn Phe Leu Leu Asn Ile Leu Gln Thr Glu His Asp  
 485 490 495  
 Ala Ala Arg Ser Leu Tyr Gln  
 500

<210> 1021

<211> 515

<212> PRT

<213> Chlamydia pneumoniae

<400> 1021

Cys Gly Asn Ser Thr Met Ser Ser Trp Leu Ser Gln Ala Ser Glu Val  
 1 5 10 15  
 Leu Leu Asn Gln Asp Pro Tyr Ile Pro Asp Ala Pro Arg Ser Gln Glu  
 20 25 30  
 Ser Ser Val Pro Lys Ile Ser Tyr Ser Ile Thr Val Ala Pro Gln Glu  
 35 40 45  
 Ala Gln Lys Ser Leu Pro Lys Phe Phe Thr Gln Lys Phe Gln Ser Gln  
 50 55 60  
 Cys Lys Ser Glu Pro Pro Ile Thr His His Lys Thr Phe Ile Ile Ala  
 65 70 75 80  
 Thr Pro Arg Glu Arg Ile Leu Arg Phe Gly Ser Ser Phe Glu Ser Gln  
 85 90 95  
 Leu His Asn Thr Ser Gln Ala Gln Thr Ser Ser Pro Trp Asn Leu Phe  
 100 105 110  
 Ser Gln Lys Asn Ser Thr Glu Ala Ser Lys Ala Leu Met Gln Glu Leu  
 115 120 125  
 Thr Met Pro Lys Ser Pro Glu Lys Thr Ser Glu Lys Ala Leu Asp Lys  
 130 135 140  
 Asn Leu Ser Ser Lys Gln Glu Gly Ser Cys Lys Asn Phe Asp Thr Leu  
 145 150 155 160



His Leu Gln Gln His Leu Lys Leu Phe Gly Thr Val Asp Ser Leu Tyr  
 165 170 175  
 Ser Gln Ser Leu Asp Ser Glu Gln Gln Glu Leu Leu Gln Ser Arg Arg  
 180 185 190  
 Glu Glu Arg Ser Glu Thr Tyr Ala Asn Gln Gln Ser Ser Glu Lys Lys  
 195 200 205  
 Ile Glu Thr Lys Val Gln Ile Lys Asp Leu Cys Lys Asp Leu Phe Ser  
 210 215 220  
 Gln Asp Gln Asp Ser Asn Gln Lys Gln Lys Lys Ser Pro Phe Gln Gln  
 225 230 235 240  
 Asp Thr Ser Arg Lys Asn Arg Ile Ala Lys Ala Ala Gln Ala Val Pro  
 245 250 255  
 Val Ile Pro Pro Pro Ser Ile Gly Val Phe Thr Leu Ser Tyr Leu Leu  
 260 265 270  
 Thr Lys Gln Gly Ile Leu Ser Asp Phe Ser Ser Tyr Gly Cys His Lys  
 275 280 285  
 Asp Ser Val Glu Ser Thr Gln Arg Glu Leu Asp Ala Leu His Glu Lys  
 290 295 300  
 Arg Ile Glu Thr Ile Lys Val Ser Ile Glu Lys Glu Lys Arg Glu Arg  
 305 310 315 320  
 Leu Trp Gly Ser Leu Ser Asp Ile Ile Gly Trp Leu Ala Pro Phe Val  
 325 330 335  
 Ser Ile Gly Ile Gly Ile Val Ala Ile Leu Ser Gly Gly Gly Ile Phe  
 340 345 350  
 Ala Phe Ala Gly Phe Phe Ala Gly Leu Ile Ser Leu Val Ile Lys Cys  
 355 360 365  
 Leu Glu Lys Leu Lys Phe Trp Asp Trp Leu Glu Lys His Leu Pro Ile  
 370 375 380  
 Lys Asn Glu Glu Leu Arg Arg Lys Ile Ile Thr Ile Ile Gln Trp Val  
 385 390 395 400  
 Val Tyr Leu Thr Pro Val Ile Leu Ser Ile Cys Thr Leu Lys Val Glu  
 405 410 415  
 Asn Leu Gly Phe Ser Pro Ile Ile Glu Gly Ala Ile Lys Gly Ile Gln  
 420 425 430  
 Pro Ala Ile Glu Ser Thr Met Ala Ala Leu Arg Cys Ala Ile Leu Phe  
 435 440 445  
 Ser Gln Ala Glu Ile Tyr Lys Leu Lys Gly Lys Leu Thr Lys Ile Gln  
 450 455 460  
 Leu Asp Ile Glu Leu Lys Ser Phe Asp Arg Asp Asp His Tyr Glu Arg  
 465 470 475 480  
 Ser Gln Glu Leu Leu Asp Asn Met Glu Ser Ser Phe Glu Ala Leu Ser  
 485 490 495  
 Arg Ile Leu Asn Tyr Met Arg Glu Leu Asp Gln Val Tyr Leu His Ser  
 500 505 510  
 Leu Arg Gly  
 515

<210> 1022

<211> 191

<212> PRT

<213> Chlamydia pneumoniae

<400> 1022

Cys Ile Glu Val Ile Glu Arg Thr Tyr Gly His Leu His Leu Gln Pro  
 1 5 10 15  
 Thr Pro Leu Met Ser His Leu Asn Tyr Leu Leu Glu Lys Ile Ala Ala  
 20 25 30  
 Ser Ser Lys Glu Asp Phe Pro Phe Pro Asp Asp Leu Glu Ser Tyr Leu  
 35 40 45  
 Glu Gly Tyr Val Pro Asp Lys Asn Ile Ala Leu Asp Thr Tyr Gln Lys  
 50 55 60

Ile	Phe	Lys	Ile	Ser	Ser	Glu	Asp	Leu	Glu	Lys	Val	Tyr	Lys	Glu	Gly	65	70	75	80
Tyr	His	Ala	Tyr	Leu	Asp	Lys	Asp	Tyr	Ala	Lys	Ser	Ile	Thr	Val	Phe		85	90	95
Arg	Trp	Leu	Val	Phe	Phe	Asn	Pro	Phe	Val	Ser	Lys	Phe	Trp	Phe	Ser	100	105	110	
Leu	Gly	Ala	Ser	Leu	His	Met	Ser	Glu	Gln	Tyr	Ser	Gln	Ala	Leu	His	115	120	125	
Ala	Tyr	Gly	Val	Thr	Ala	Val	Leu	Arg	Asp	Lys	Asp	Pro	Tyr	Pro	His	130	135	140	
Tyr	Tyr	Ala	Tyr	Ile	Cys	Tyr	Thr	Leu	Thr	Asn	Glu	His	Glu	Glu	Ala	145	150	155	160
Glu	Lys	Ala	Leu	Glu	Met	Ala	Trp	Val	Arg	Ala	Gln	His	Lys	Pro	Leu	165	170	175	
Tyr	Asn	Glu	Leu	Lys	Glu	Glu	Ile	Leu	Asp	Ile	Arg	Lys	His	Lys		180	185	190	

<210> 1023

<211> 498

<212> PRT

<213> Chlamydia pneumoniae

<400> 1023

Phe	Ser	Phe	Phe	Phe	Tyr	Ala	Leu	Lys	Leu	Gln	Ile	Met	Asn	Met	Pro	1	5	10	15
Val	Pro	Ser	Ala	Val	Pro	Ser	Ala	Asn	Ile	Thr	Leu	Lys	Glu	Asp	Ser	20	25	30	
Ser	Thr	Val	Ser	Thr	Ala	Ser	Gly	Ile	Leu	Lys	Thr	Ala	Thr	Gly	Glu	35	40	45	
Val	Leu	Val	Ser	Cys	Thr	Ala	Leu	Glu	Gly	Ser	Ser	Ser	Thr	Asp	Ala	50	55	60	
Leu	Ile	Ser	Leu	Ala	Leu	Gly	Gln	Ile	Ile	Leu	Ala	Thr	Gln	Gln	Glu	65	70	75	80
Leu	Leu	Leu	Gln	Ser	Thr	Asn	Val	His	Gln	Leu	Leu	Phe	Leu	Pro	Pro	85	90	95	
Glu	Val	Val	Glu	Leu	Glu	Ile	Gln	Val	Val	Asp	Leu	Leu	Val	Gln	Leu	100	105	110	
Glu	His	Ala	Glu	Thr	Ile	Thr	Ser	Glu	Pro	Gln	Glu	Thr	Gln	Thr	Gln	115	120	125	
Ser	Arg	Ser	Glu	Gln	Thr	Leu	Pro	Gln	Gln	Ser	Ser	Ser	Lys	Gln	Ser	130	135	140	
Ala	Leu	Ser	Pro	Arg	Ser	Leu	Lys	Pro	Glu	Ile	Ser	Asp	Ser	Lys	Gln	145	150	155	160
Gln	Gln	Ala	Leu	Gln	Thr	Pro	Lys	Asp	Ser	Ala	Val	Arg	Lys	His	Ser	165	170	175	
Glu	Ala	Pro	Ser	Pro	Glu	Thr	Gln	Ala	Arg	Ala	Ser	Leu	Ser	Gln	Ala	180	185	190	
Ser	Ser	Ser	Ser	Gln	Arg	Ser	Leu	Pro	Pro	Gln	Glu	Ser	Ala	Pro	Glu	195	200	205	
Arg	Thr	Leu	Leu	Glu	Gln	Gln	Lys	Ala	Ser	Ser	Phe	Ser	Pro	Leu	Ser	210	215	220	
Gln	Phe	Ser	Ala	Glu	Lys	Gln	Lys	Glu	Ala	Leu	Thr	Thr	Ser	Lys	Ser	225	230	235	240
His	Glu	Leu	Tyr	Lys	Glu	Arg	Asp	Gln	Asp	Arg	Gln	Gln	Arg	Glu	Gln	245	250	255	
His	Asp	Arg	Lys	His	Asp	Gln	Glu	Glu	Asp	Ala	Glu	Ser	Lys	Lys	Lys	260	265	270	
Lys	Lys	Lys	Arg	Gly	Leu	Gly	Val	Glu	Ala	Val	Ala	Glu	Pro	Gly		275	280	285	
Glu	Asn	Leu	Asp	Ile	Ala	Ala	Leu	Ile	Phe	Ser	Asp	Gln	Met	Arg	Pro	290	295	300	

Pro Ala Glu Glu Thr Ser Lys Lys Glu Thr Thr Phe Lys Lys Lys Leu  
 305 310 315 320  
 Pro Ser Pro Met Ser Val Phe Ser Arg Phe Ile Pro Ser Lys Asn Pro  
 325 330 335  
 Leu Ser Val Gly Ser Ser Ile His Gly Pro Ile Gln Thr Pro Lys Val  
 340 345 350  
 Glu Asn Val Phe Leu Arg Phe Met Lys Leu Met Ala Arg Ile Leu Gly  
 355 360 365  
 Gln Ala Glu Ala Glu Ala Asn Glu Leu Tyr Met Arg Val Lys Gln Arg  
 370 375 380  
 Thr Asp Asp Val Asp Thr Leu Thr Val Leu Ile Ser Lys Ile Asn Asn  
 385 390 395 400  
 Glu Lys Lys Asp Ile Asp Trp Ser Glu Asn Glu Glu Met Lys Ala Leu  
 405 410 415  
 Leu Asn Arg Ala Lys Glu Ile Gly Val Thr Ile Asp Lys Glu Lys Tyr  
 420 425 430  
 Thr Trp Thr Glu Glu Glu Lys Arg Leu Leu Lys Glu Asn Val Gln Met  
 435 440 445  
 Arg Lys Glu Asn Met Glu Lys Ile Thr Gln Met Glu Arg Thr Asp Met  
 450 455 460  
 Gln Arg His Leu Gln Glu Ile Ser Gln Cys His Gln Ala Arg Ser Asn  
 465 470 475 480  
 Val Leu Lys Leu Leu Lys Glu Leu Met Asp Thr Phe Ile Tyr Asn Leu  
 485 490 495  
 Arg Pro

<210> 1024  
 <211> 108  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 1024  
 Gly Leu Asp Phe Leu Glu Ile Phe Ile Met Lys Lys Val Val Thr Leu  
 1 5 10 15  
 Ser Ile Ile Phe Phe Ala Thr Tyr Cys Ala Ser Glu Leu Ser Ala Val  
 20 25 30  
 Thr Val Val Ala Val Pro Leu Ser Glu Ala Pro Gly Lys Ile Gln Val  
 35 40 45  
 Arg Pro Val Val Gly Leu Gln Phe Gln Glu Glu Gln Gly Ser Val Pro  
 50 55 60  
 Tyr Ser Phe Tyr Tyr Pro Tyr Asp Tyr Gly Tyr Tyr Tyr Pro Glu Thr  
 65 70 75 80  
 Tyr Gly Tyr Thr Lys Asn Thr Gly Gln Glu Ser Arg Glu Cys Tyr Thr  
 85 90 95  
 Arg Phe Glu Asp Gly Thr Ile Phe Tyr Glu Cys Asp  
 100 105

<210> 1025  
 <211> 328  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 1025  
 Ile Phe Phe Phe Pro Trp Phe Ser Leu Cys Ser Leu Lys Ile Ala Pro  
 1 5 10 15  
 Leu Pro Ile Leu Lys Leu His Ser Leu Ala Ser Met Thr Met Pro Ser  
 20 25 30  
 Thr Gln Phe His Thr Thr Ile Leu Glu Gln Phe Ser Leu Phe Leu Ser  
 35 40 45

Val Asp Arg Gly Leu Cys Gln Gln Ser Ile Ala Ala Tyr Arg Gln Asp  
 50 55 60  
 Ile Ser Ser Phe Leu Thr Ile Ser Ala Ile Ser Ser Pro Gln Asp Ile  
 65 70 75 80  
 Ser Gln Asn Ser Val Tyr Ile Phe Ala Glu Glu Leu Tyr Arg Arg Lys  
 85 90 95  
 Glu Ala Glu Thr Thr Leu Ala Arg Arg Leu Ile Ala Leu Lys Val Phe  
 100 105 110  
 Phe Leu Phe Leu Lys Asp Gln Gln Leu Leu Pro Tyr Pro Pro Ile Ile  
 115 120 125  
 Glu His Pro Lys Ile Trp Lys Arg Leu Pro Ser Val Leu Thr Pro Gln  
 130 135 140  
 Glu Val Asp Ala Leu Leu Ala Val Pro Leu Gln Met Glu Lys Asn Pro  
 145 150 155 160  
 Arg His Leu Ala Phe Arg Asp Thr Ala Ile Leu His Thr Leu Tyr Ser  
 165 170 175  
 Thr Gly Val Arg Val Ser Glu Leu Cys Asp Leu Arg Leu Gly His Val  
 180 185 190  
 Ser Asp Asp Cys Ile Arg Val Thr Gly Lys Gly Ser Lys Thr Arg Leu  
 195 200 205  
 Val Pro Leu Gly Ser Arg Ala Arg Glu Ala Ile Asp Ala Tyr Leu Cys  
 210 215 220  
 Pro Phe Arg Asp Gln Tyr Gln Lys Lys Asn Pro His Glu Asp His Leu  
 225 230 235 240  
 Phe Leu Ser Thr Arg Gly His Lys Leu Glu Arg Ser Cys Val Trp Arg  
 245 250 255  
 Arg Ile His Asn Tyr Ala Lys Gln Val Thr Ser Lys Pro Val Ser Pro  
 260 265 270  
 His Ser Leu Arg His Ala Phe Ala Thr His Leu Leu Asp Asn Lys Ala  
 275 280 285  
 Asp Leu Arg Val Ile Gln Glu Met Leu Gly His Ala Arg Ile Ala Ser  
 290 295 300  
 Thr Glu Val Tyr Thr His Val Ala Ala Asp Ser Leu Ile Glu Lys Phe  
 305 310 315 320  
 Leu Ala His His Pro Arg Asn Leu  
 325

<210> 1026

<211> 538

<212> PRT

<213> Chlamydia pneumoniae

<400> 1026

Gly Ala Glu Gln Phe Ser Ser Tyr Arg Glu Lys Thr Met Glu Arg Lys  
 1 5 10 15  
 Arg Phe Ile Asp Cys Asp Ser Thr Lys Ile Leu Gln Glu Leu Ala Leu  
 20 25 30  
 Asn Pro Leu Asp Leu Thr Ala Pro Gly Val Leu Ser Ala Glu Arg Ile  
 35 40 45  
 Lys Lys Phe Ser Leu Leu Gly Gly Gly Phe Thr Phe Ser Phe Ala Thr  
 50 55 60  
 Glu Arg Leu Asp Asp Ala Ile Leu Ala Ala Leu Ile Ser Leu Ala Glu  
 65 70 75 80  
 Glu Arg Gly Leu His Glu Ser Met Leu Ala Met Gln Gln Gly Gln Val  
 85 90 95  
 Val Asn Tyr Ile Glu Gly Phe Pro Ser Glu Met Arg Pro Ala Leu His  
 100 105 110  
 Thr Ala Thr Arg Ala Trp Val Thr Asp Ser Ser Phe Thr Gly Glu Ala  
 115 120 125  
 Glu Asp Ile Ala Val Arg Ser Arg Val Glu Ala Gln Arg Leu Lys Asp  
 130 135 140

Phe Leu Thr Lys Val Arg Ser Gln Phe Thr Thr Ile Val Gln Ile Gly  
145 150 155 160  
Ile Gly Gly Ser Glu Leu Gly Pro Lys Ala Leu Tyr Arg Ala Leu Arg  
165 170 175  
Ala Tyr Cys Pro Thr Asp Lys His Val His Phe Ile Ser Asn Ile Asp  
180 185 190  
Pro Asp Asn Gly Ala Glu Val Leu Asp Thr Ile Asp Cys Ala Lys Ala  
195 200 205  
Leu Val Val Val Val Ser Lys Ser Gly Thr Thr Ile Glu Thr Ala Val  
210 215 220  
Asn Glu Ala Phe Phe Ala Asp Tyr Phe Ala Lys Lys Gly Leu Ser Phe  
225 230 235 240  
Lys Asp His Phe Ile Ala Val Thr Cys Glu Gly Ser Pro Met Asp Asp  
245 250 255  
Thr Gly Lys Tyr Leu Glu Val Phe His Leu Trp Glu Ser Ile Gly Gly  
260 265 270  
Arg Phe Ser Ser Thr Ser Met Val Gly Gly Val Val Leu Gly Phe Ala  
275 280 285  
Tyr Gly Phe Glu Val Phe Leu Gln Leu Leu Gln Gly Ala Ser Ala Met  
290 295 300  
Asp Gln Ile Ala Leu Gln Pro Asn Ala Arg Glu Asn Leu Pro Met Leu  
305 310 315 320  
Ser Ala Leu Ile Ser Ile Trp Asn Arg Asn Phe Leu Gly Tyr Pro Thr  
325 330 335  
Glu Ala Val Ile Pro Tyr Ser Ser Gly Leu Glu Phe Phe Pro Ala His  
340 345 350  
Leu Gln Gln Cys Cys Met Glu Ser Asn Gly Lys Ser Ile Ala Gln Asp  
355 360 365  
Gly Arg Arg Val Gly Phe Ser Thr Ser Pro Val Ile Trp Gly Glu Pro  
370 375 380  
Gly Thr Asn Gly Gln His Ser Phe Phe Gln Cys Leu His Gln Gly Thr  
385 390 395 400  
Asp Ile Ile Pro Val Glu Phe Ile Gly Phe Glu Lys Ser Gln Lys Gly  
405 410 415  
Glu Asp Ile Ser Phe Gln Gly Thr Thr Ser Ser Gln Lys Leu Phe Ala  
420 425 430  
Asn Met Ile Ala Gln Ala Ile Ala Leu Ala Cys Gly Ser Glu Asn Thr  
435 440 445  
Asn Pro Asn Lys Asn Phe Asp Gly Asn Arg Pro Ser Ser Val Leu Val  
450 455 460  
Ser Ser Gln Leu Asn Pro Tyr Ser Leu Gly Glu Leu Leu Ser Tyr Tyr  
465 470 475 480  
Glu Asn Lys Ile Val Phe Gln Gly Leu Cys Trp Gly Ile Asn Ser Phe  
485 490 495  
Asp Gln Glu Gly Val Ser Leu Gly Lys Ala Leu Ala Asn Arg Val Leu  
500 505 510  
Glu Leu Leu Glu Gly Ala Asp Ala Ser Asn Phe Pro Glu Ala Ala Ser  
515 520 525  
Leu Leu Thr Leu Phe Asn Ile Lys Phe Arg  
530 535

<210> 1027

<211> 59

<212> PRT

<213> Chlamydia pneumoniae

<400> 1027

Cys Ser Phe Gly Phe Gly Lys Ile Cys Glu Asp Arg Met Phe Phe Ile  
1 5 10 15  
Ala Val Arg Ser Arg Gly Phe Leu Asp Ile His Gly Ile Leu Ala Ala  
20 25 30

Arg Lys Gly Lys Gln Val Val Lys Ser Thr Ala Gly Ala Trp Ile Gly  
 35 40 45  
 Ser Arg Gly Ala Val Phe Tyr Ser Leu Val Ser  
 50 55

<210> 1028  
 <211> 528  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 1028  
 Asn Met Pro Gly Ser Val Ser Ser Pro Pro Leu Ser Pro Val Ile Val  
 1 5 10 15  
 Arg Glu Arg Val Pro Ser Ser Ser Gly Ser Asp Leu Ile Gln Pro His  
 20 25 30  
 Ala Val Leu Lys Ile Ser Ile Leu Ile Phe Ala Leu Val Thr Ile Leu  
 35 40 45  
 Gly Ile Val Leu Val Val Leu Ser Ser Ala Leu Gly Ala Leu Pro Ser  
 50 55 60  
 Leu Val Leu Thr Val Ser Gly Cys Ile Ala Ile Ala Val Gly Leu Ile  
 65 70 75 80  
 Gly Leu Gly Ile Leu Val Thr Arg Leu Ile Leu Ser Thr Ile Arg Lys  
 85 90 95  
 Val Asp Ala Met Gly Tyr Asp Ala Ala Val Lys Glu Glu Gln Tyr Leu  
 100 105 110  
 Ser Arg Ile Arg Glu Leu Glu Ser Glu Asn Arg Glu Ile Arg Asp Arg  
 115 120 125  
 Asn Arg Ala Val Glu Asp Gln Cys Ala His Leu Ser Glu Glu Asn Lys  
 130 135 140  
 Asp Leu Arg Asp Pro Glu Tyr Leu His Gly Met Thr Glu Arg Leu Ile  
 145 150 155 160  
 Ala Ser Leu Glu Ile Glu Asn Gln Ala Leu Val Ala Glu Asn Ile Leu  
 165 170 175  
 Leu Lys Asp Trp Asn Ala Ser Leu Ser Arg Asp Phe Arg Ala Tyr Lys  
 180 185 190  
 Gln Lys Phe Pro Leu Gly Ala Leu Glu Pro Trp Lys Glu Asp Ile Ala  
 195 200 205  
 Cys Ile Met Glu Gln Asn Leu Phe Leu Lys Pro Glu Cys Ile Ala Met  
 210 215 220  
 Val Lys Ser Leu Pro Leu Glu Thr Gln Arg Leu Phe Leu Tyr Pro Lys  
 225 230 235 240  
 Gly Phe Gln Ser Leu Val Asn Arg Phe Ala Pro Arg Ser Arg Phe Phe  
 245 250 255  
 Gln Thr Pro Lys Tyr Glu Tyr Asn Ser Arg Asn Glu Asn Glu Asp Gly  
 260 265 270  
 Lys Val Ala Ala Val Cys Ala Arg Leu Lys Lys Glu Phe Phe Ser Ala  
 275 280 285  
 Val Leu Gly Ala Cys Ser Tyr Glu Glu Leu Gly Gly Ile Cys Glu Arg  
 290 295 300  
 Ala Val Ala Leu Lys Glu Thr Leu Pro Leu Pro Glu Ala Val Tyr Asp  
 305 310 315 320  
 Thr Leu Val Gln Glu Phe Pro Asn Leu Leu Thr Ala Glu Ser Leu Trp  
 325 330 335  
 Lys Glu Trp Cys Phe Tyr Ser Tyr Pro Tyr Leu Arg Pro Tyr Leu Ser  
 340 345 350  
 Val Asp Tyr Cys Lys Arg Leu Phe Val Gln Leu Phe Glu Glu Leu Cys  
 355 360 365  
 Leu Lys Leu Phe Thr Thr Gly Ser Pro Glu Asp Gln Ala Leu Val Arg  
 370 375 380  
 Leu Phe Ser Tyr Tyr Arg Asn His Ile Pro Ala Val Leu Ala Ser Phe  
 385 390 395 400

Gly Leu Pro Pro Pro Glu Thr Gly Gly Ser Val Phe Val Leu Leu Pro  
 405 410 415  
 Lys Gln Glu Asn Leu Leu Trp Ser Gln Ile Glu Val Leu Ala Thr Arg  
 420 425 430  
 Tyr Leu Lys Asp Thr Phe Val Arg Asn Ser Glu Trp Thr Gly Ser Phe  
 435 440 445  
 Glu Met Met Phe Ser Tyr Asn Glu Met Cys Lys Glu Ile Ser Glu Gly  
 450 455 460  
 Arg Ile Arg Phe Ala Glu Asp Tyr Glu Thr Arg His Ser Glu Glu Phe  
 465 470 475 480  
 Pro Pro Ser Pro Leu Ser Glu Glu Gly Glu Gly Glu Glu Phe Leu Pro  
 485 490 495  
 Pro Cys Ser Glu Glu Glu Val Ser Val Leu Glu Arg Pro Asp Leu Asp  
 500 505 510  
 Val Asp Ser Met Trp Val Trp His Pro Pro Val Pro Lys Gly Pro Leu  
 515 520 525

<210> 1029

<211> 335

<212> PRT

<213> Chlamydia pneumoniae

<400> 1029

Phe Phe Leu Lys Gly Val Arg Met Ala Phe Lys Glu Val Val Arg Val  
 1 5 10 15  
 Ala Val Thr Gly Gly Lys Gly Gln Ile Ala Tyr Asn Phe Leu Phe Ala  
 20 25 30  
 Leu Ala His Gly Asp Val Phe Gly Val Asp Arg Gly Val Asp Leu Arg  
 35 40 45  
 Ile Tyr Asp Val Pro Gly Thr Glu Arg Ala Leu Ser Gly Val Arg Met  
 50 55 60  
 Glu Leu Asp Asp Gly Ala Tyr Pro Leu Leu His Arg Leu Arg Val Thr  
 65 70 75 80  
 Thr Ser Leu Asn Asp Ala Phe Asp Gly Ile Asp Ala Ala Phe Leu Ile  
 85 90 95  
 Gly Ala Val Pro Arg Gly Pro Gly Met Glu Arg Gly Asp Leu Leu Lys  
 100 105 110  
 Gln Asn Gly Gln Ile Phe Ser Leu Gln Gly Ala Ala Leu Asn Thr Ala  
 115 120 125  
 Ala Lys Arg Asp Ala Lys Ile Phe Val Val Gly Asn Pro Val Asn Thr  
 130 135 140  
 Asn Cys Trp Ile Ala Met Lys His Ala Pro Arg Leu His Arg Lys Asn  
 145 150 155 160  
 Phe His Ala Met Leu Arg Leu Asp Gln Asn Arg Met His Ser Met Leu  
 165 170 175  
 Ala His Arg Ala Glu Val Pro Leu Glu Glu Val Ser Arg Val Val Ile  
 180 185 190  
 Trp Gly Asn His Ser Ala Lys Gln Val Pro Asp Phe Thr Gln Ala Arg  
 195 200 205  
 Ile Ser Gly Lys Pro Ala Ala Glu Val Ile Gly Asp Arg Asp Trp Leu  
 210 215 220  
 Glu Asn Ile Leu Val His Ser Val Gln Asn Arg Gly Ser Ala Val Ile  
 225 230 235 240  
 Glu Ala Arg Gly Lys Ser Ser Ala Ala Ser Ala Ser Arg Ala Leu Ala  
 245 250 255  
 Glu Ala Ala Arg Ser Ile Phe Cys Pro Lys Ser Asp Glu Trp Phe Ser  
 260 265 270  
 Ser Gly Val Cys Ser Asp His Asn Pro Tyr Gly Ile Pro Glu Asp Leu  
 275 280 285  
 Ile Phe Gly Phe Pro Cys Arg Met Leu Pro Ser Gly Asp Tyr Glu Ile  
 290 295 300

Ile Pro Gly Leu Pro Trp Glu Pro Phe Ile Arg Asn Lys Ile Gln Ile  
 305 310 315 320  
 Ser Leu Asp Glu Ile Ala Gln Glu Lys Ala Ser Val Ser Ser Leu  
 325 330 335

<210> 1030  
 <211> 286  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 1030  
 Arg Val Phe Val Ile Ser Thr Met Leu Trp Gly Val Ser Met Arg Gln  
 1 5 10 15  
 Ser Phe Asp Glu Leu Ser Gln Asn Ala Phe Lys Asn Ile Phe Asn Lys  
 20 25 30  
 Gln Arg Phe Cys Phe Ile Phe Cys Ser Leu Cys Cys Phe Gly Phe Val  
 35 40 45  
 Phe Ala Leu Phe Leu Lys Leu Cys Ser Arg Leu Ala Pro Glu Ile Ser  
 50 55 60  
 Leu Ser Thr Leu Gly Leu Gly Ala Phe Phe Cys Ala Phe Ser Val Ile  
 65 70 75 80  
 Cys Ala Ser Ala Ile Ile Val Gln Phe Leu Leu His Lys Glu Ser Gln  
 85 90 95  
 Gly Glu Thr Ser Lys Leu Cys Cys Ala Ile Lys Asn Thr Trp Ser Ser  
 100 105 110  
 Leu Trp Leu Ser Leu Leu Val Ser Met Pro Phe Phe Ile Ala Met Val  
 115 120 125  
 Ala Val Val Thr Val Ala Met Leu Ser Ser Phe Leu Gly Ser Leu Pro  
 130 135 140  
 Trp Val Gly Lys Leu Phe His Thr Val Leu Ile Phe Ile Pro Tyr Leu  
 145 150 155 160  
 Ser Ala Thr Ala Leu Ile Leu Leu Phe Leu Gly Ser Phe Ser Cys Leu  
 165 170 175  
 Phe Phe Cys Ile Pro Val Leu His Asn Gln Glu Ser Ile Asp Tyr Arg  
 180 185 190  
 Lys Leu Leu Glu Cys Phe Arg Gly Asn Ile Leu Arg Gln Phe Ile Gly  
 195 200 205  
 Val Val Ile Ala Leu Val Pro Leu Ala Leu Cys Ser Trp Leu Ala Leu  
 210 215 220  
 Asp Ser Phe Tyr Leu Met Thr His Leu Val Glu Ile Ala Asp Ile His  
 225 230 235 240  
 Thr Trp Ser Phe Leu Ala Gln Met Phe Val Leu Ile Val Pro Ile Ala  
 245 250 255  
 Leu Ile Leu Thr Pro Ala Val Ser Phe Phe Phe Asn Phe Ser Phe Ser  
 260 265 270  
 Phe Tyr Leu Ala Lys Gln Glu Glu Glu Lys Ala Leu Val Lys  
 275 280 285

<210> 1031  
 <211> 353  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 1031  
 Phe Lys Val His Phe Met Arg Ile Ala Val Leu Gly Ala Gly Tyr Ala  
 1 5 10 15  
 Gly Leu Ser Val Thr Trp His Leu Leu Leu His Ser Gln Gly Thr Ala  
 20 25 30  
 Thr Ile Asp Leu Phe Asp Pro Ile Pro Leu Gly Glu Gly Ala Ser Gly  
 35 40 45



Met Ser Ser Gly Leu Leu His Ala Phe Thr Gly Lys Lys Ala Leu Lys  
 50 55 60  
 Pro Pro Leu Ala Asp Gln Gly Ile Asn Ala Thr His Ala Leu Ile Thr  
 65 70 75 80  
 Glu Ala Ser Lys Ala Leu Asn Val Pro Ile Val Ile Ser Gln Gly Ile  
 85 90 95  
 Leu Arg Pro Ala Ile Asp Glu Asp Gln Ala Gln Leu Phe Thr Glu Arg  
 100 105 110  
 Val Glu Glu Phe Pro Lys Glu Val Glu Trp Trp Glu Lys Ala Arg Cys  
 115 120 125  
 Glu Ile Ser Ile Pro Ser Met Val Ile Pro Pro Asn Leu Gly Ala Leu  
 130 135 140  
 Phe Ile Lys Ser Gly Val Thr Leu Asn Asn Asp Leu Tyr Ile Gln Gly  
 145 150 155 160  
 Leu Ala Asp Ala Cys Met Lys Leu Gly Thr Gln Phe Tyr Asp Glu Leu  
 165 170 175  
 Ile Glu Asp Leu Ala Asp Ile Glu Glu Phe Tyr Asp His Ile Ile Val  
 180 185 190  
 Thr Pro Gly Ala Asn Ala Ser Ile Leu Pro Glu Leu Lys Asp Met Pro  
 195 200 205  
 Val Asn Lys Val Lys Gly Gln Leu Leu Glu Ile Ser Trp Pro Lys Asp  
 210 215 220  
 Leu Ala Met Leu Ser Phe Ser Ile Asn Ala His Lys Tyr Met Val Ala  
 225 230 235 240  
 Asn Thr Gln Lys Asn Thr Cys Ile Leu Gly Ala Thr Phe Glu His Asn  
 245 250 255  
 Gln Pro Glu Glu Thr Pro Asp Pro Ala Ile Ala Tyr Gln Glu Ile Met  
 260 265 270  
 Pro Pro Val Leu Ser Leu Phe Pro Gly Leu Lys Asp Ala Gln Val Leu  
 275 280 285  
 His Cys Tyr Ala Gly Met Arg Ser Ser Ser Lys Ser Arg Leu Pro Val  
 290 295 300  
 Ile Ser Arg Ile Arg Glu Lys Leu Trp Phe Leu Gly Gly Leu Gly Ser  
 305 310 315 320  
 Lys Gly Leu Leu Tyr His Gly Ile Thr Gly Asp Met Leu Ala Gln Ala  
 325 330 335  
 Val Leu Arg Lys Ser Thr Ala Tyr Ile Ala Lys Glu Phe Leu Phe Thr  
 340 345 350  
 Ile

<210> 1032

<211> 490

<212> PRT

<213> Chlamydia pneumoniae

<400> 1032

Ile Lys Glu Thr Phe Met Thr Ser Arg Thr Lys Ser Ser Lys Asn Leu  
 1 5 10 15  
 Gly Thr Ile Ala Leu Ala Gly Met Val Val Ser Ser Ile Ile Gly Gly  
 20 25 30  
 Gly Ile Phe Ser Leu Pro Gln Asn Met Ala Ala Thr Ala Gly Ala Gly  
 35 40 45  
 Ala Val Ile Leu Ser Trp Ile Leu Thr Gly Phe Gly Met Phe Phe Ile  
 50 55 60  
 Ala Asn Thr Phe Arg Ile Leu Ser Thr Ile Arg Pro Asp Leu Lys Glu  
 65 70 75 80  
 Gly Ile Tyr Met Tyr Ser Arg Glu Gly Phe Gly Pro Tyr Ile Gly Phe  
 85 90 95  
 Thr Ile Gly Trp Gly Tyr Trp Leu Cys Gln Ile Phe Gly Asn Val Gly  
 100 105 110

Tyr Ala Val Ile Thr Met Asp Ala Leu Asn Tyr Phe Phe Pro Pro Tyr  
 115 120 125  
 Phe Gln Gly Gly Asn Thr Leu Pro Ala Ile Leu Gly Gly Ser Ile Leu  
 130 135 140  
 Ile Trp Val Phe Asn Phe Ile Val Leu Lys Gly Ile Arg Gln Ala Ser  
 145 150 155 160  
 Ile Ile Asn Val Ile Gly Thr Ile Phe Lys Ile Ile Pro Leu Ile Ile  
 165 170 175  
 Phe Ile Ile Leu Thr Ala Phe Phe Phe Lys Leu Ala Val Phe Lys Thr  
 180 185 190  
 Asp Phe Trp Gly His Ala Val Thr Lys Ala Gln Pro Ser Leu Gly Ser  
 195 200 205  
 Val Ser Ser Gln Leu Lys Gly Thr Met Leu Val Thr Leu Trp Ala Phe  
 210 215 220  
 Ile Gly Ile Glu Gly Ala Val Val Met Ser Gly Arg Ala Lys Asn Pro  
 225 230 235 240  
 Leu Ser Val Gly Gln Ala Thr Val Leu Gly Phe Leu Gly Cys Leu Thr  
 245 250 255  
 Ile Tyr Ile Leu Phe Ser Leu Leu Pro Phe Gly Ser Leu Phe Gln His  
 260 265 270  
 Gln Leu Ala Asn Ile Pro Asn Pro Ser Thr Ala Gly Val Leu Asp Ile  
 275 280 285  
 Leu Val Gly Lys Trp Gly Glu Val Leu Met Asn Val Gly Leu Ile Ile  
 290 295 300  
 Ala Val Leu Ser Ser Trp Leu Ser Trp Thr Ile Ile Val Ala Glu Ile  
 305 310 315 320  
 Pro Phe Ser Ala Ala Lys Asn Gly Thr Phe Pro Glu Ile Phe Thr Ile  
 325 330 335  
 Glu Asn Lys Glu Lys Ser Pro Ser Val Ser Leu Tyr Ile Thr Ser Ser  
 340 345 350  
 Val Met Gln Leu Ala Met Leu Leu Val Tyr Phe Ser Ser Asn Ala Trp  
 355 360 365  
 Asn Thr Met Leu Ser Ile Thr Gly Val Met Val Leu Pro Ala Tyr Leu  
 370 375 380  
 Ala Ser Ala Ala Phe Leu Phe Lys Leu Ser Lys Ser Lys Thr Tyr Pro  
 385 390 395 400  
 Lys Lys Gly Ser Ile Lys Ala Pro Leu Ala Met Ile Thr Gly Ile Leu  
 405 410 415  
 Gly Val Val Tyr Ser Leu Trp Leu Ile Tyr Ala Gly Gly Leu Lys Tyr  
 420 425 430  
 Leu Phe Met Ala Leu Val Leu Leu Ala Leu Gly Ile Pro Phe Tyr Ile  
 435 440 445  
 Asp Ala Gly Lys Lys Lys Lys Asn Ala Lys Thr Phe Phe Ala Lys Lys  
 450 455 460  
 Glu Ile Val Gly Met Thr Phe Ile Gly Leu Leu Ala Leu Thr Ala Ile  
 465 470 475 480  
 Phe Leu Phe Leu Thr Gly Arg Ile Lys Ile  
 485 490

<210> 1033  
 <211> 196  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 1033  
 Leu Met Ala Tyr Gly Thr Arg Tyr Pro Thr Leu Ala Phe His Thr Gly  
 1 5 10 15  
 Gly Ile Gly Glu Ser Asp Asp Gly Met Pro Pro Gln Pro Phe Glu Thr  
 20 25 30  
 Phe Cys Tyr Asp Ser Ala Leu Leu Gln Ala Lys Ile Glu Asn Phe Asn  
 35 40 45

Ile Val Pro Tyr Thr Ser Val Leu Pro Lys Glu Leu Phe Gly Asn Ile  
 50 55 60  
 Val Pro Val Asp Thr Cys Val Lys Ser Phe Lys His Gly Ala Val Leu  
 65 70 75 80  
 Glu Val Ile Met Ala Gly Arg Gly Ala Ala Leu Ser Asp Gly Thr His  
 85 90 95  
 Ala Ile Ala Thr Gly Ile Gly Ile Cys Trp Gly Lys Asp Lys Asn Gly  
 100 105 110  
 Glu Leu Ile Gly Gly Trp Ala Ala Glu Tyr Val Glu Phe Phe Pro Thr  
 115 120 125  
 Trp Ile Asn Asp Glu Ile Ala Glu Thr His Ala Lys Met Trp Leu Lys  
 130 135 140  
 Lys Ser Leu Gln His Glu Leu Asp Leu Arg Ser Ile Ala Lys His Ser  
 145 150 155 160  
 Glu Phe Gln Phe Phe His Asn Tyr Ile Asn Ile Lys Gln Lys Phe Gly  
 165 170 175  
 Phe Cys Leu Thr Ala Leu Gly Phe Leu Asn Phe Glu Asn Ala Glu Pro  
 180 185 190  
 Ala Lys Val Asn  
 195

<210> 1034

<211> 490

<212> PRT

<213> Chlamydia pneumoniae

<400> 1034

Asn Asn Lys Lys Lys Asp Tyr Ser Gly Glu Phe Leu Thr Thr Asp Thr  
 1 5 10 15  
 Val Asp Ser Ile Ala Phe Leu Pro Ser Glu Glu Asn Phe Cys Tyr Ile  
 20 25 30  
 Lys Thr Ile Leu Phe Phe Arg Val Lys Lys Lys His Tyr Ala Phe Phe  
 35 40 45  
 Tyr Gly Glu Phe Met Ile Ser Phe Arg Phe Leu Leu Ser Gly Leu  
 50 55 60  
 Cys Ala Leu Gly Ile Ser Ser Tyr Ala Glu Thr Pro Lys Glu Thr Thr  
 65 70 75 80  
 Gly His Tyr His Arg Tyr Lys Ala Arg Ile Gln Lys Lys His Pro Glu  
 85 90 95  
 Ser Ile Lys Glu Ser Ala Pro Ser Glu Thr Pro His His Asn Ser Leu  
 100 105 110  
 Leu Ser Pro Val Thr Asn Ile Phe Cys Ser His Pro Trp Lys Asp Gly  
 115 120 125  
 Ile Ser Val Ser Asn Leu Leu Thr Ser Val Glu Lys Ala Thr Asn Thr  
 130 135 140  
 Gln Ile Ser Leu Asp Phe Ser Ile Leu Pro Gln Trp Phe Tyr Pro His  
 145 150 155 160  
 Lys Ala Leu Gly Gln Thr Gln Ala Leu Glu Ile Pro Ser Trp Gln Phe  
 165 170 175  
 Tyr Phe Ser Pro Ser Thr Thr Trp Thr Leu Tyr Asp Ser Pro Thr Ala  
 180 185 190  
 Gly Gln Gly Ile Val Asp Phe Ser Tyr Thr Leu Ile His Tyr Trp Gln  
 195 200 205  
 Thr Asn Gly Val Asp Ala Asn Gln Ala Ala Gly Thr Ala Ser Ser Met  
 210 215 220  
 Asn Asp Tyr Ser Asn Arg Glu Asn Asn Leu Ala Gln Leu Thr Phe Ser  
 225 230 235 240  
 Gln Thr Phe Pro Gly Asp Phe Leu Thr Leu Ala Ile Gly Gln Tyr Ser  
 245 250 255  
 Leu Tyr Ala Ile Asp Gly Thr Leu Tyr Asp Asn Asp Gln Tyr Ser Gly  
 260 265 270

Phe Ile Ser Tyr Ala Leu Ser Gln Asn Ala Ser Ala Thr Tyr Ser Leu  
 275 280 285  
 Gly Ser Thr Gly Ala Tyr Leu Gln Phe Thr Pro Asn Ser Glu Ile Lys  
 290 295 300  
 Val Gln Leu Gly Phe Gln Asp Ser Tyr Asn Ile Asp Gly Thr Asn Phe  
 305 310 315 320  
 Ser Ile Tyr Asn Leu Thr Lys Ser Lys Tyr Asn Phe Tyr Gly Tyr Ala  
 325 330 335  
 Ser Trp Thr Pro Lys Pro Ser Cys Gly Asp Gly Gln Tyr Ser Val Leu  
 340 345 350  
 Leu Tyr Ser Thr Arg Lys Val Pro Glu Gln Asn Ser Gln Val Thr Gly  
 355 360 365  
 Trp Ser Leu Asn Ala Ala Gln His Ile His Glu Lys Leu Tyr Leu Phe  
 370 375 380  
 Gly Arg Ile Asn Gly Ala Thr Gly Thr Ala Leu Pro Ile Asn Arg Ser  
 385 390 395 400  
 Tyr Val Leu Gly Leu Val Ser Glu Asn Pro Leu Asn Arg His Ser Gln  
 405 410 415  
 Asp Leu Leu Gly Ile Gly Phe Ala Thr Asn Lys Val Asn Ala Lys Ala  
 420 425 430  
 Ile Ser Asn Val Asn Lys Leu Arg Arg Tyr Glu Ser Val Met Glu Ala  
 435 440 445  
 Phe Ala Thr Ile Gly Phe Gly Pro Tyr Ile Ser Leu Thr Pro Asp Phe  
 450 455 460  
 Gln Leu Tyr Ile His Pro Ala Leu Arg Pro Glu Arg Arg Thr Ser Gln  
 465 470 475 480  
 Val Tyr Gly Leu Arg Ala Asn Leu Ser Leu  
 485 490

<210> 1035  
 <211> 286  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 1035  
 Lys Thr Ser Trp Gln Lys Tyr Lys Lys Tyr Leu Ser Tyr Ser Ile Leu  
 1 5 10 15  
 Val Gln Lys Ile Ala Arg Tyr Val Met Lys Thr Trp Leu Phe Phe Thr  
 20 25 30  
 Phe Leu Phe Ser Cys Ser Ser Phe Tyr Ala Ser Cys Arg Tyr Ala Glu  
 35 40 45  
 Val Arg Ser Ile His Glu Val Ala Gly Asp Ile Leu Tyr Asp Glu Glu  
 50 55 60  
 Asn Phe Trp Leu Ile Leu Asp Leu Asp Asp Thr Leu Leu Gln Gly Gly  
 65 70 75 80  
 Glu Ala Leu Ser His Ser Ile Trp Lys Ser Lys Ala Ile Gln Gly Leu  
 85 90 95  
 Gln Lys Gln Gly Thr Pro Glu Gln Glu Ala Trp Glu Ala Val Val Pro  
 100 105 110  
 Phe Trp Ile Glu Ile Gln Glu Met Gly Thr Val Gln Pro Ile Glu Ser  
 115 120 125  
 Ala Ile Phe Leu Leu Ile Glu Lys Ile Gln Lys Gln Gly Lys Thr Thr  
 130 135 140  
 Phe Val Tyr Thr Glu Arg Pro Lys Thr Ala Lys Asp Leu Thr Leu Lys  
 145 150 155 160  
 Gln Leu His Met Leu Asn Val Ser Leu Glu Asp Thr Ala Pro Gln Pro  
 165 170 175  
 Gln Ala Pro Leu Pro Lys Asn Leu Leu Tyr Thr Ser Gly Ile Leu Phe  
 180 185 190  
 Ser Gly Asp Tyr His Lys Gly Pro Gly Leu Asp Leu Phe Leu Glu Ile  
 195 200 205

Cys Thr Pro Leu Pro Ala Lys Ile Ile Tyr Ile Asp Asn Gln Lys Glu  
 210 215 220  
 Asn Val Leu Arg Ile Gly Asp Leu Cys Gln Lys Tyr Gly Ile Ala Tyr  
 225 230 235 240  
 Phe Gly Ile Thr Tyr Lys Ala Gln Glu Leu His Pro Pro Ile Tyr Phe  
 245 250 255  
 Asp Asn Ile Ala Gln Val Gln Tyr Asn Tyr Ser Lys Lys Leu Leu Ser  
 260 265 270  
 Asn Glu Ala Ala Ala Leu Leu Leu Arg His Gln Met His Glu  
 275 280 285

<210> 1036  
 <211> 504  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 1036  
 Val Val Gln Leu Pro Leu Met Val Pro Ile Val His Leu Gln Ile Trp  
 1 5 10 15  
 Arg Phe Ser Met Ile Tyr Tyr Gly Val Ser Val Met Leu Cys Ala Thr  
 20 25 30  
 Val Ser Gly Pro Ser Phe Cys Glu Ala Lys Gln Gln Ile Leu Lys Ser  
 35 40 45  
 Leu His Leu Val Asp Ile Ile Glu Leu Arg Leu Asp Leu Ile Asn Glu  
 50 55 60  
 Leu Asp Asp Gln Glu Leu His Thr Leu Ile Thr Thr Ala Gln Asn Pro  
 65 70 75 80  
 Ile Leu Thr Phe Arg Gln His Lys Glu Met Ser Thr Ala Leu Trp Ile  
 85 90 95  
 Gln Lys Leu Tyr Ser Leu Ala Lys Leu Glu Pro Lys Trp Met Asp Ile  
 100 105 110  
 Asp Val Ser Leu Pro Lys Thr Ala Leu Gln Thr Ile Arg Lys Ser His  
 115 120 125  
 Pro Lys Ile Lys Leu Ile Leu Ser Tyr His Thr Asp Lys Asn Glu Asp  
 130 135 140  
 Leu Asp Ala Ile Tyr Asn Glu Met Leu Ala Thr Pro Ala Glu Ile Tyr  
 145 150 155 160  
 Lys Ile Val Leu Ser Pro Glu Asn Ser Ser Glu Ala Leu Asn Tyr Ile  
 165 170 175  
 Lys Lys Ala Arg Leu Leu Pro Lys Pro Ser Thr Val Leu Cys Met Gly  
 180 185 190  
 Thr His Gly Leu Pro Ser Arg Val Leu Ser Pro Leu Ile Ser Asn Ala  
 195 200 205  
 Met Asn Tyr Ala Ala Gly Ile Ser Ala Pro Gln Val Ala Pro Gly Gln  
 210 215 220  
 Pro Lys Leu Glu Glu Leu Ser Tyr Asn Tyr Ser Lys Leu Ser Glu  
 225 230 235 240  
 Lys Ser His Ile Tyr Gly Leu Ile Gly Asp Pro Val Asp Arg Ser Ile  
 245 250 255  
 Ser His Leu Ser His Asn Phe Leu Leu Ser Lys Leu Ser Leu Asn Ala  
 260 265 270  
 Thr Tyr Ile Lys Phe Pro Val Thr Ile Gly Glu Val Val Thr Phe Phe  
 275 280 285  
 Ser Ala Ile Arg Asp Leu Pro Phe Ser Gly Leu Ser Val Thr Met Pro  
 290 295 300  
 Leu Lys Thr Ala Ile Phe Asp His Val Asp Ala Leu Asp Ala Ser Ala  
 305 310 315 320  
 Gln Leu Cys Glu Ser Ile Asn Thr Leu Val Phe Arg Asn Gln Lys Ile  
 325 330 335  
 Leu Gly Tyr Asn Thr Asp Gly Glu Gly Val Ala Lys Leu Leu Lys Gln  
 340 345 350

Lys Asn Ile Ser Val Asn Asn Lys His Ile Ala Ile Val Gly Ala Gly  
           355                          360                          365  
 Gly Ala Ala Lys Ala Ile Ala Ala Thr Leu Ala Met Gln Gly Ala Asn  
           370                          375                          380  
 Leu His Ile Phe Asn Arg Thr Leu Ser Ser Ala Ala Ala Leu Ala Thr  
 385                          390                          395                          400  
 Cys Cys Lys Gly Lys Ala Tyr Pro Leu Gly Ser Leu Glu Asn Phe Lys  
                           405                          410                          415  
 Thr Ile Asp Ile Ile Ile Asn Cys Leu Pro Pro Glu Val Thr Phe Pro  
                           420                          425                          430  
 Trp Arg Phe Pro Pro Ile Val Met Asp Ile Asn Thr Lys Pro His Pro  
           435                          440                          445  
 Ser Pro Tyr Leu Glu Arg Ala Gln Lys His Gly Ser Leu Ile Ile His  
           450                          455                          460  
 Gly Tyr Glu Met Phe Ile Glu Gln Ala Leu Leu Gln Phe Ala Leu Trp  
 465                          470                          475                          480  
 Phe Pro Asp Phe Leu Thr Pro Glu Ser Cys Asp Ser Phe Arg Asn Tyr  
                           485                          490                          495  
 Val Lys Asn Phe Met Ala Lys Val  
           500

<210> 1037  
 <211> 399  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 1037  
 Gly Tyr Asp Lys Pro Cys Ser Cys Arg Ser Cys Ile Ile Pro Thr Met  
 1                          5                          10                          15  
 Leu Gln Thr Met Met Ser Glu Thr Ile Thr Thr Pro His Val Val  
           20                          25                          30  
 Lys Leu Ile Ser Asn Phe Phe Gln Lys Lys Leu Phe Ser Ser Ile Ser  
           35                          40                          45  
 Thr Ala Tyr Pro Leu Val Ile Ile Thr Asp Val Ser Val Gln Gln His  
           50                          55                          60  
 Leu Leu Gly Pro Ile Leu Asp His Ile Lys Met Leu Gly Tyr Gln Val  
 65                          70                          75                          80  
 Ile Val Leu Thr Phe Pro Pro Gly Glu Pro Asn Lys Thr Trp Glu Thr  
           85                          90                          95  
 Phe Ile Ser Leu Gln Tyr Gln Leu Val Asp Gln Asn Ile Ser Pro Lys  
           100                          105                          110  
 Ser Ser Ile Ile Gly Ile Gly Gly Gly Thr Val Leu Asp Met Thr Gly  
           115                          120                          125  
 Phe Leu Ala Ala Thr Tyr Cys Arg Gly Leu Pro Leu Tyr Leu Ile Pro  
           130                          135                          140  
 Thr Thr Ile Thr Ala Met Val Asp Thr Ser Ile Gly Gly Lys Asn Gly  
 145                          150                          155                          160  
 Ile Asn Leu Arg Gly Ile Lys Asn Arg Leu Gly Thr Phe Tyr Leu Pro  
           165                          170                          175  
 Lys Glu Val Trp Met Cys Pro Gln Phe Leu Ser Thr Leu Pro Arg Glu  
           180                          185                          190  
 Glu Trp Tyr His Gly Ile Ala Glu Ala Ile Lys His Gly Phe Ile Ala  
           195                          200                          205  
 Asp Ala Tyr Leu Trp Glu Phe Leu Asn Ser His Ser Lys Met Leu Phe  
           210                          215                          220  
 Ser Ser Ser Gln Ile Leu His Glu Phe Ile Lys Arg Asn Cys Gln Ile  
 225                          230                          235                          240  
 Lys Ala Ala Ile Val Ala Glu Asp Pro Tyr Asp Arg Ser Leu Arg Lys  
           245                          250                          255  
 Ile Leu Asn Phe Gly His Ser Ile Ala His Ala Ile Glu Thr Leu Ala  
           260                          265                          270

Lys Gly Thr Val Asn His Gly Gln Ala Val Ser Val Gly Met Met Ile  
 275 280 285  
 Glu Thr Arg Ile Ser Leu Ala Glu Gly Val Met Lys Thr Pro Gln Leu  
 290 295 300  
 Ile Asp Gln Leu Glu Arg Leu Leu Lys Arg Phe Asn Leu Pro Ser Thr  
 305 310 315 320  
 Leu Lys Asp Leu Gln Ser Ile Val Pro Glu His Leu His Asn Ser Leu  
 325 330 335  
 Tyr Ser Pro Glu Asn Ile Ile Tyr Thr Leu Gly Tyr Asp Lys Lys Asn  
 340 345 350  
 Leu Ser Gln His Glu Leu Lys Met Ile Met Ile Glu His Leu Gly Arg  
 355 360 365  
 Ala Ala Pro Phe Asn Gly Thr Tyr Cys Ala Ser Pro Asn Met Glu Ile  
 370 375 380  
 Leu Tyr Asp Ile Leu Trp Ser Glu Cys His Val Met Arg His Cys  
 385 390 395

<210> 1038

<211> 388

<212> PRT

<213> Chlamydia pneumoniae

<400> 1038

Leu His Phe Ser Arg Gly Ser Arg Arg Ser Phe Leu Glu Glu Leu Leu  
 1 5 10 15  
 Arg Thr Ser Val Ser Arg Ser His Tyr Leu Val Lys Val Met Lys Asn  
 20 25 30  
 Ser Phe Gly Ser Leu Phe Ser Phe Thr Thr Trp Gly Glu Ser His Gly  
 35 40 45  
 Pro Ser Ile Gly Val Val Ile Asp Gly Cys Pro Ala Gly Leu Glu Leu  
 50 55 60  
 His Glu Ser Asp Phe Val Pro Ala Met Lys Arg Arg Arg Pro Gly Asn  
 65 70 75 80  
 Pro Gly Thr Ser Ser Arg Lys Glu Asn Asp Ile Val Gln Ile Leu Ser  
 85 90 95  
 Gly Val Tyr Lys Gly Lys Thr Thr Gly Thr Pro Leu Ser Leu Gln Ile  
 100 105 110  
 Leu Asn Thr Asp Val Asp Ser Ser Pro Tyr Glu Asn Ser Glu Arg Leu  
 115 120 125  
 Tyr Arg Pro Gly His Ser Gln Tyr Thr Tyr Glu Lys Lys Phe Gly Ile  
 130 135 140  
 Val Asp Pro Asn Gly Gly Gly Arg Ser Ser Ala Arg Glu Thr Ala Cys  
 145 150 155 160  
 Arg Val Ala Ala Gly Val Val Ala Glu Lys Phe Leu Ala Asn Gln Asn  
 165 170 175  
 Ile Phe Thr Leu Ala Tyr Leu Ser Ser Leu Gly Ser Leu Thr Leu Pro  
 180 185 190  
 His Tyr Leu Lys Ile Ser Pro Glu Leu Ile His Lys Ile His Thr Ser  
 195 200 205  
 Pro Phe Tyr Ser Pro Leu Pro Asn Glu Lys Ile Gln Glu Ile Leu Thr  
 210 215 220  
 Ser Leu His Asp Asp Ser Asp Ser Leu Gly Gly Val Ile Ser Phe Ile  
 225 230 235 240  
 Thr Ser Pro Ile His Asp Phe Leu Gly Glu Pro Leu Phe Gly Lys Val  
 245 250 255  
 His Ala Leu Leu Ala Ser Ala Leu Met Ser Ile Pro Ala Ala Lys Gly  
 260 265 270  
 Phe Glu Ile Gly Lys Gly Phe Ala Ser Ala Gln Met Arg Gly Ser Gln  
 275 280 285  
 Tyr Thr Asp Pro Phe Val Met Glu Gly Glu Asn Ile Thr Leu Lys Ser  
 290 295 300

Asn Asn Cys Gly Gly Thr Leu Gly Gly Ile Thr Ile Gly Val Pro Ile  
 305 310 315 320  
 Glu Gly Arg Ile Ala Phe Lys Pro Thr Ser Ser Ile Lys Arg Pro Cys  
 325 330 335  
 Ala Thr Val Thr Lys Thr Lys Lys Glu Thr Thr Tyr Arg Thr Pro Gln  
 340 345 350  
 Thr Gly Arg His Asp Pro Cys Val Ala Ile Arg Ala Val Pro Val Val  
 355 360 365  
 Glu Ala Met Ile Asn Leu Val Leu Ala Asp Leu Val Leu Tyr Gln Arg  
 370 375 380  
 Cys Ser Lys Leu  
 385

<210> 1039  
 <211> 184  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 1039  
 Trp Lys Leu Glu Leu Arg Asn Val Met Thr Ile Ile Leu Cys Gly Leu  
 1 5 10 15  
 Pro Thr Ser Gly Lys Ser Ser Leu Gly Lys Ala Leu Ala Lys Phe Leu  
 20 25 30  
 Asn Leu Pro Phe Tyr Asp Leu Asp Asp Leu Ile Val Ser Asn Tyr Ser  
 35 40 45  
 Ser Ala Leu Tyr Ser Ser Ser Ala Glu Ile Tyr Lys Ala Tyr Gly Asp  
 50 55 60  
 Gln Lys Phe Ser Glu Cys Glu Ala Arg Ile Leu Glu Thr Leu Pro Pro  
 65 70 75 80  
 Glu Asp Ala Leu Ile Ser Leu Gly Gly Gly Thr Leu Met Tyr Glu Ala  
 85 90 95  
 Ser Tyr Arg Ala Ile Gln Thr Arg Gly Ala Leu Val Phe Leu Ser Val  
 100 105 110  
 Glu Leu Pro Leu Ile Tyr Glu Arg Leu Glu Lys Arg Gly Leu Pro Glu  
 115 120 125  
 Arg Leu Lys Glu Ala Met Lys Thr Lys Pro Leu Ser Glu Ile Leu Thr  
 130 135 140  
 Glu Arg Ile Asp Arg Met Lys Glu Ile Ala Asp Tyr Ile Phe Pro Val  
 145 150 155 160  
 Asp His Val Asp His Ser Ser Lys Ser Ser Leu Glu Gln Ala Ser Gln  
 165 170 175  
 Asp Leu Ile Thr Leu Leu Lys Ser  
 180

<210> 1040  
 <211> 449  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 1040  
 Val Cys Phe Thr Met Leu Thr Tyr Lys Val Ser Pro Ser Ser Val Tyr  
 1 5 10 15  
 Gly Asn Ala Phe Ile Pro Ser Ser Lys Ser His Thr Leu Arg Ala Ile  
 20 25 30  
 Leu Trp Ala Ser Val Ala Glu Gly Lys Ser Ile Ile Tyr Asn Tyr Leu  
 35 40 45  
 Asp Ser Pro Asp Thr Glu Ala Met Ile Cys Ala Cys Lys Gln Met Gly  
 50 55 60  
 Ala Ser Ile Lys Lys Phe Pro Gln Ile Leu Glu Ile Val Gly Asn Pro  
 65 70 75 80



Leu Ala Ile Phe Pro Lys Tyr Thr Leu Ile Asp Ala Gly Asn Ser Gly  
                   85                  90                  95  
 Ile Val Leu Arg Phe Met Thr Ala Leu Ala Cys Val Phe Ser Lys Glu  
                   100                  105                  110  
 Ile Thr Val Thr Gly Ser Ser Gln Leu Gln Arg Arg Pro Met Ala Pro  
                   115                  120                  125  
 Leu Leu Gln Ala Leu Arg Asn Phe Gly Ala Ser Phe His Phe Ser Ser  
                   130                  135                  140  
 Asp Lys Ser Val Leu Pro Phe Thr Met Ser Gly Pro Leu Arg Ser Ala  
                   145                  150                  155                  160  
 Tyr Ser Asp Val Glu Gly Ser Asp Ser Gln Phe Ala Ser Ala Leu Ala  
                   165                  170                  175  
 Val Ala Cys Ser Leu Ala Glu Gly Pro Cys Ser Phe Thr Ile Ile Glu  
                   180                  185                  190  
 Pro Lys Glu Arg Pro Trp Phe Asp Leu Ser Leu Trp Trp Leu Glu Lys  
                   195                  200                  205  
 Leu His Leu Pro Tyr Ser Cys Ser Asp Thr Thr Tyr Ser Phe Pro Gly  
                   210                  215                  220  
 Ser Ser His Pro Gln Gly Phe Ser Tyr His Val Thr Gly Asp Phe Ser  
                   225                  230                  235                  240  
 Ser Ala Ala Phe Ile Ala Ala Ala Ala Leu Leu Ser Lys Ser Leu Gln  
                   245                  250                  255  
 Pro Ile Arg Leu Arg Asn Leu Asp Ile Leu Asp Ile Gln Gly Asp Lys  
                   260                  265                  270  
 Ile Phe Phe Ser Leu Met Gln Asn Leu Gly Ala Ser Ile Gln Tyr Asp  
                   275                  280                  285  
 Asn Glu Glu Ile Leu Val Phe Pro Ser Ser Phe Ser Gly Gly Ser Ile  
                   290                  295                  300  
 Asp Met Asp Gly Cys Ile Asp Ala Leu Pro Ile Leu Thr Val Leu Cys  
                   305                  310                  315                  320  
 Cys Phe Ala Asp Ser Pro Ser His Leu Tyr Asn Ala Arg Ser Ala Lys  
                   325                  330                  335  
 Asp Lys Glu Ser Asp Arg Ile Leu Ala Ile Thr Glu Glu Leu Gln Lys  
                   340                  345                  350  
 Met Gly Ala Cys Ile Gln Pro Thr His Asp Gly Leu Leu Val Asn Pro  
                   355                  360                  365  
 Ser Pro Leu Tyr Gly Ala Val Leu Asp Ser His Asp Asp His Arg Ile  
                   370                  375                  380  
 Ala Met Ala Leu Thr Ile Ala Ala Leu Tyr Ala Ser Gly Asp Ser Arg  
                   385                  390                  395                  400  
 Ile His Asn Thr Ala Cys Val Arg Lys Thr Phe Pro Asn Phe Val Gln  
                   405                  410                  415  
 Thr Leu Asn Ile Met Glu Ala Arg Ile Glu Glu Cys His Asp Asn Tyr  
                   420                  425                  430  
 Ser Met Trp Ser Thr His Lys Arg Lys Val Phe Ala Arg Glu Ser Phe  
                   435                  440                  445  
 Gly

<210> 1041  
 <211> 268  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 1041  
 Arg Pro Ser Gln Ser Leu Phe Leu Arg Thr Trp Ser Pro Ser Ser Ser  
   1                  5                  10                  15  
 Phe Arg Glu His Thr Val Cys Ala Ala Pro Leu Leu Tyr Pro Arg Arg  
                   20                  25                  30  
 Arg Ser Pro Asp Tyr Leu Phe Ser Pro Thr Gly Cys Pro Met Ser Thr  
                   35                  40                  45

Thr Thr Val Lys His Phe Ile His Thr Ala Ser Arg Trp Glu Pro Val  
 50 55 60  
 Leu Lys Glu Ile Val Ala Ser Asn Tyr Trp His Ala Gln Trp Ile Asn  
 65 70 75 80  
 Thr Leu Ser Phe Leu Glu Asn Ser Gly Ala Lys Lys Ile Ser Ala Ser  
 85 90 95  
 Glu His Pro Thr Glu Val Lys Glu Glu Val Leu Lys His Ala Ala Glu  
 100 105 110  
 Glu Phe Arg His Gly His Tyr Leu Lys Thr Gln Ile Ser Arg Ile Ser  
 115 120 125  
 Glu Thr Ser Leu Pro Asp Tyr Thr Ser Lys Asn Leu Leu Gly Gly Leu  
 130 135 140  
 Leu Thr Lys Tyr Tyr Leu His Leu Leu Asp Leu Arg Thr Cys Arg Val  
 145 150 155 160  
 Leu Glu Asn Glu Tyr Ser Leu Ser Gly Gln Thr Leu Lys Thr Ala Ala  
 165 170 175  
 Tyr Ile Leu Val Thr Tyr Ala Ile Glu Leu Arg Ala Ser Glu Leu Tyr  
 180 185 190  
 Pro Leu Tyr His Asp Ile Leu Lys Glu Ala Gln Ser Lys Ile Thr Val  
 195 200 205  
 Lys Ser Ile Ile Leu Glu Glu Gln Gly His Leu Gln Glu Met Glu Arg  
 210 215 220  
 Glu Leu Lys Asp Leu Pro His Gly Glu Glu Leu Leu Gly Tyr Ala Cys  
 225 230 235 240  
 Gln Phe Glu Gly Glu Leu Cys Leu Gln Phe Val Glu Arg Leu Glu Gln  
 245 250 255  
 Met Ile Phe Asp Pro Ser Ser Thr Phe Thr Lys Phe  
 260 265

<210> 1042

<211> 526

<212> PRT

<213> Chlamydia pneumoniae

<400> 1042

Asp Phe Arg Arg Ile Phe Ile Pro Leu His Ile Lys Lys Thr Ser Gly  
 1 5 10 15  
 Arg Cys Val Phe Phe Leu Val Met Phe Leu Asp Phe Ser Glu Pro Ser  
 20 25 30  
 Ile Ser Arg Lys Tyr Gln Ser His Leu Phe Asn Gly Arg Ser Asn Ala  
 35 40 45  
 Leu Thr Lys Pro Gln Tyr Leu Arg Tyr Gly Gly Lys Trp Val Ser Arg  
 50 55 60  
 Gly Arg Arg Ala Leu Ala Asn Ser Arg Asn Gln Ala Ser Tyr Asn Arg  
 65 70 75 80  
 Asp Ser Cys Gln Gly Lys Arg Asn His Lys Asp Asn His Lys Leu Leu  
 85 90 95  
 Cys Arg Thr Met Glu Gly Ser Met Asp Lys Gln Ser Ser Gly Asn Ser  
 100 105 110  
 Gly Cys Ile Trp His Pro Phe Thr Gln Ser Ala Leu Asp Ser Thr Pro  
 115 120 125  
 Ile Lys Ile Val Arg Gly Glu Gly Ala Tyr Leu Tyr Ala Glu Ser Gly  
 130 135 140  
 Thr Arg Tyr Leu Asp Ala Ile Ser Ser Trp Trp Cys Asn Leu His Gly  
 145 150 155 160  
 His Gly His Pro Tyr Ile Thr Lys Lys Leu Cys Glu Gln Ala Gln Lys  
 165 170 175  
 Leu Glu His Val Ile Phe Ala Asn Phe Thr His Glu Pro Ala Leu Glu  
 180 185 190  
 Leu Val Ser Lys Leu Ala Pro Leu Leu Pro Glu Gly Leu Glu Arg Phe  
 195 200 205

Phe	Phe	Ser	Asp	Asn	Gly	Ser	Thr	Ser	Ile	Glu	Ile	Ala	Met	Lys	Ile
210						215					220				
Ala	Val	Gln	Tyr	Tyr	Tyr	Asn	Gln	Asn	Lys	Ala	Lys	Ser	His	Phe	Val
225					230					235					240
Gly	Leu	Ser	Asn	Ala	Tyr	His	Gly	Asp	Thr	Phe	Gly	Ala	Met	Ser	Ile
			245					250						255	
Ala	Gly	Thr	Ser	Pro	Thr	Thr	Val	Pro	Phe	His	Asp	Leu	Phe	Leu	Pro
			260					265					270		
Ser	Ser	Thr	Ile	Ala	Ala	Pro	Tyr	Tyr	Gly	Lys	Glu	Glu	Leu	Ala	Ile
		275					280					285			
Ala	Gln	Ala	Lys	Thr	Val	Phe	Ser	Glu	Ser	Asn	Ile	Ala	Ala	Phe	Ile
	290					295					300				
Tyr	Glu	Pro	Leu	Leu	Gln	Gly	Ala	Gly	Gly	Met	Leu	Met	Tyr	Asn	Pro
305					310					315					320
Glu	Gly	Leu	Lys	Glu	Ile	Leu	Lys	Leu	Ala	Lys	His	Tyr	Gly	Val	Leu
			325						330					335	
Cys	Ile	Ala	Asp	Glu	Ile	Leu	Thr	Gly	Phe	Gly	Arg	Thr	Gly	Pro	Leu
			340					345					350		
Phe	Ala	Ser	Glu	Phe	Thr	Asp	Ile	Pro	Pro	Asp	Ile	Ile	Cys	Leu	Ser
		355					360					365			
Lys	Gly	Leu	Thr	Gly	Gly	Tyr	Leu	Pro	Leu	Ala	Leu	Thr	Val	Thr	Thr
	370					375					380				
Lys	Glu	Ile	His	Asp	Ala	Phe	Val	Ser	Gln	Asp	Arg	Met	Lys	Ala	Leu
385					390					395					400
Leu	His	Gly	His	Thr	Phe	Thr	Gly	Asn	Pro	Leu	Gly	Cys	Ser	Ala	Ala
			405					410						415	
Leu	Ala	Ser	Leu	Asp	Leu	Thr	Leu	Ser	Pro	Glu	Cys	Leu	Gln	Gln	Arg
		420					425						430		
Gln	Met	Ile	Glu	Arg	Cys	His	Gln	Glu	Phe	Gln	Glu	Ala	His	Gly	Ser
	435						440					445			
Leu	Trp	Gln	Arg	Cys	Glu	Val	Leu	Gly	Thr	Val	Leu	Ala	Leu	Asp	Tyr
	450					455					460				
Pro	Ala	Glu	Ala	Thr	Gly	Tyr	Phe	Ser	Gln	Tyr	Arg	Asp	His	Leu	Asn
465					470					475					480
Arg	Phe	Phe	Leu	Glu	Arg	Gly	Val	Leu	Leu	Arg	Pro	Leu	Gly	Asn	Thr
			485					490						495	
Leu	Tyr	Val	Leu	Pro	Pro	Tyr	Cys	Ile	Gln	Glu	Glu	Asp	Leu	Arg	Ile
		500						505					510		
Ile	Tyr	Ser	His	Leu	Gln	Asp	Ala	Leu	Cys	Leu	Gln	Pro	Gln		
		515					520					525			

<210> 1043  
 <211> 232  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 1043

Asn	Arg	Ser	Pro	Phe	Thr	Tyr	Phe	Arg	Ala	Asn	Phe	Phe	Met	Gln	Arg
1				5					10					15	
Ile	Ile	Ile	Val	Gly	Ile	Asp	Thr	Gly	Val	Gly	Lys	Thr	Ile	Val	Ser
			20					25					30		
Ala	Ile	Leu	Ala	Arg	Ala	Leu	Asn	Ala	Glu	Tyr	Trp	Lys	Pro	Ile	Gln
	35						40					45			
Ala	Gly	Asn	Leu	Glu	Asn	Ser	Asp	Ser	Asn	Ile	Val	His	Glu	Leu	Ser
	50					55					60				
Gly	Ala	Tyr	Cys	His	Pro	Glu	Ala	Tyr	Arg	Leu	His	Lys	Pro	Leu	Ser
65					70					75					80
Pro	His	Lys	Ala	Ala	Gln	Ile	Asp	Asn	Val	Ser	Ile	Glu	Glu	Ser	His
			85					90						95	
Ile	Cys	Ala	Pro	Lys	Thr	Thr	Ser	Asn	Leu	Ile	Ile	Glu	Thr	Ser	Gly
			100					105						110	

Gly Phe Leu Ser Pro Cys Thr Ser Lys Arg Leu Gln Gly Asp Val Phe  
 115 120 125  
 Ser Ser Trp Ser Cys Ser Trp Ile Leu Val Ser Gln Ala Tyr Leu Gly  
 130 135 140  
 Ser Ile Asn His Thr Cys Leu Thr Val Glu Ala Met Arg Ser Arg Asn  
 145 150 155 160  
 Leu Asn Ile Leu Gly Met Val Val Asn Gly Tyr Pro Glu Asp Glu Glu  
 165 170 175  
 His Trp Leu Thr Gln Glu Ile Lys Leu Pro Ile Ile Gly Thr Leu Ala  
 180 185 190  
 Lys Glu Lys Glu Ile Thr Lys Thr Ile Ile Ser Cys Tyr Ala Glu Gln  
 195 200 205  
 Trp Lys Glu Val Trp Thr Ser Asn His Gln Gly Ile Gln Gly Val Ser  
 210 215 220  
 Gly Thr Pro Ser Leu Asn Leu His  
 225 230

<210> 1044

<211> 383

<212> PRT

<213> Chlamydia pneumoniae

<400> 1044

Pro Met Leu Cys Gln Gln Phe Leu Ile Glu Ala Leu Ala Arg Arg Lys  
 1 5 10 15  
 Ser Lys His Thr Tyr Arg Ser Leu Ser Leu Asn Ser His Leu Ile Asp  
 20 25 30  
 Phe Thr Ser Asn Asp Tyr Leu Gly Phe Ala Ser Ser Pro Glu Leu Arg  
 35 40 45  
 Lys Glu Tyr Ile Thr Lys Leu His Ala Ile Glu Ser Leu Gly Ala Thr  
 50 55 60  
 Gly Ser Arg Leu Leu Thr Gly His Ser Gln Leu Cys Gln Arg Ile Glu  
 65 70 75 80  
 Glu Gln Leu Ala Ala Tyr His Asn Phe Glu Ser Cys Leu Ile Phe Asn  
 85 90 95  
 Thr Gly Tyr Thr Ala Asn Leu Gly Leu Leu Tyr Ala Leu Ala Thr Asp  
 100 105 110  
 Gln Asp Arg Ile Leu His Asp Leu Tyr Ile His Ala Ser Ile Tyr Asp  
 115 120 125  
 Gly Ile Arg Leu Ser Lys Ala Gln Ser Phe Pro Phe Asn His Asn Asp  
 130 135 140  
 Leu Asn His Leu Glu Lys Arg Leu Ala Ser Ser His Leu Gly Arg Thr  
 145 150 155 160  
 Phe Val Cys Val Glu Ser Val Tyr Ser Leu His Gly Ser Val Ala Pro  
 165 170 175  
 Leu Gln Ala Ile Ser Glu Leu Cys Glu Arg Tyr Ser Ala Tyr Leu Ile  
 180 185 190  
 Val Asp Glu Ala His Ala Val Gly Val Phe Gly Asp Gln Gly Glu Gly  
 195 200 205  
 Leu Val Ser Ala Leu Gly Leu Gln Asp Lys Val Leu Ala Thr Val Tyr  
 210 215 220  
 Thr Phe Gly Lys Ala Leu Gly Thr His Gly Ala Ala Ile Ala Gly Ser  
 225 230 235 240  
 Ser Ile Leu Lys Asp Tyr Leu Ile Asn Phe Cys Arg Pro Phe Ile Tyr  
 245 250 255  
 Thr Thr Ala Gln Pro Pro His Ala Leu Thr Ala Ile Glu Leu Ala Tyr  
 260 265 270  
 Glu His Asn Gln Arg Ala Phe Asn Gln Arg Glu His Leu Ser Ala Leu  
 275 280 285  
 Ile His His Phe Arg Glu Lys Ala Gln Asn Leu Gly Leu Gln Leu Met  
 290 295 300

Lys Asp Asn Thr Thr Thr Pro Ile Gln Ser Ile Cys Val Ser Gly Ser  
 305 310 315 320  
 His Arg Ala Arg Gln Ala Ala Leu Gln Ile Gln Asn Ser Gly Tyr Asp  
 325 330 335  
 Val Arg Pro Ile Val Ser Pro Thr Val Lys Gln Arg Glu Glu Leu Leu  
 340 345 350  
 Arg Ile Cys Leu His Ala Phe Asn Thr Lys Asn Glu Ile Asp His Leu  
 355 360 365  
 Leu His Thr Leu Glu Gln Ile Phe Leu Cys Asn Val Ser Ser Leu  
 370 375 380

<210> 1045  
 <211> 334  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 1045  
 Ala Lys His Met Arg Glu Glu Thr Val Ser Trp Ser Leu Glu Asp Ile  
 1 5 10 15  
 Arg Glu Ile Tyr His Thr Pro Val Phe Glu Leu Ile His Lys Ala Asn  
 20 25 30  
 Ala Ile Leu Arg Ser Asn Phe Leu His Ser Glu Leu Gln Thr Cys Tyr  
 35 40 45  
 Leu Ile Ser Ile Lys Thr Gly Gly Cys Val Glu Asp Cys Ala Tyr Cys  
 50 55 60  
 Ala Gln Ser Ser Arg Tyr His Thr His Val Thr Pro Glu Pro Met Met  
 65 70 75 80  
 Lys Ile Val Asp Val Val Glu Arg Ala Lys Arg Ala Val Glu Leu Gly  
 85 90 95  
 Ala Thr Arg Val Cys Leu Gly Ala Ala Trp Arg Asn Ala Lys Asp Asp  
 100 105 110  
 Arg Tyr Phe Asp Arg Val Leu Ala Met Val Lys Ser Ile Thr Asp Leu  
 115 120 125  
 Gly Ala Glu Val Cys Cys Ala Leu Gly Met Leu Ser Glu Glu Gln Ala  
 130 135 140  
 Lys Lys Leu Tyr Asp Ala Gly Leu Tyr Ala Tyr Asn His Asn Leu Asp  
 145 150 155 160  
 Ser Ser Pro Glu Phe Tyr Glu Thr Ile Ile Thr Thr Arg Ser Tyr Glu  
 165 170 175  
 Asp Arg Leu Asn Thr Leu Asp Val Val Asn Lys Ser Gly Ile Ser Thr  
 180 185 190  
 Cys Cys Gly Gly Ile Val Gly Met Gly Glu Ser Glu Glu Asp Arg Ile  
 195 200 205  
 Lys Leu Leu His Val Leu Ala Thr Arg Asp His Ile Pro Glu Ser Val  
 210 215 220  
 Pro Val Asn Leu Leu Trp Pro Ile Asp Gly Thr Pro Leu Gln Asp Gln  
 225 230 235 240  
 Pro Pro Ile Ser Phe Trp Glu Val Leu Arg Thr Ile Ala Thr Ala Arg  
 245 250 255  
 Val Val Phe Pro Arg Ser Met Val Arg Leu Ala Ala Gly Arg Ala Phe  
 260 265 270  
 Leu Thr Val Glu Gln Gln Thr Leu Cys Phe Leu Ala Gly Ala Asn Ser  
 275 280 285  
 Ile Phe Tyr Gly Asp Lys Leu Leu Thr Val Glu Asn Asn Asp Ile Asp  
 290 295 300  
 Glu Asp Ala Glu Met Ile Lys Leu Leu Gly Leu Ile Pro Arg Pro Ser  
 305 310 315 320  
 Phe Gly Ile Glu Arg Gly Asn Pro Cys Tyr Ala Asn Asn Ser  
 325 330

<210> 1046  
 <211> 234  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 1046  
 Gly Thr Leu Pro Met Asn Thr Ser His Arg Lys Thr Leu Val Phe Ser  
 1 5 10 15  
 Tyr Leu Ser Ser Thr Phe Thr Leu Leu Val Leu Ser Asn Leu Val  
 20 25 30  
 Leu Ser Ser Lys Leu Ile Pro Thr Phe Phe Asn Phe Ile Ile Pro  
 35 40 45  
 Gly Gly Leu Ile Leu Tyr Pro Leu Thr Phe Leu Ile Ser Asp Val Val  
 50 55 60  
 Asn Glu Ile Phe Gly Pro Lys Lys Ala Arg Val Met Ile Phe Ser Ala  
 65 70 75 80  
 Phe Ile Ala Asn Leu Leu Ala Ser Ser Ile Val Gln Ile Phe Met Phe  
 85 90 95  
 Phe Pro Val Ala Ser Pro Glu Met Gln Thr Ala Trp His Cys Leu Phe  
 100 105 110  
 Asp Leu Ser Pro Leu Arg Phe Leu Ala Ser Leu Leu Ala Phe Ile Val  
 115 120 125  
 Ser Gln Gln Leu Asp Ile Val Leu Tyr Thr Phe Phe Lys Asn Arg Thr  
 130 135 140  
 Pro Asn Ser Ser Leu Trp Leu Arg Ser Asn Gly Ser Thr Trp Ile Ser  
 145 150 155 160  
 Gln Ile Pro Asp Thr Phe Ile Val Asp Thr Cys Ile Leu Tyr Phe Gly  
 165 170 175  
 Met Gly Leu Ser Phe Pro Gln Thr Leu Asn Ile Met Phe Tyr Ser Tyr  
 180 185 190  
 Ile Tyr Lys Ile Thr Phe Cys Val Leu Thr Thr Pro Leu Phe Tyr Leu  
 195 200 205  
 Ala Val Asn Thr Ile Arg Lys Phe Leu Gly Met Pro Ser Thr Lys Ile  
 210 215 220  
 Ala Asn Thr Val Pro Leu Ile Asn Gln Pro  
 225 230

<210> 1047  
 <211> 362  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 1047  
 Val His Tyr Cys Glu Arg Thr Leu Asp Pro Lys Tyr Ile Leu Lys Ile  
 1 5 10 15  
 Ala Leu Lys Leu Arg Gln Ser Leu Ser Leu Phe Phe Gln Asn Ser Gln  
 20 25 30  
 Ser Leu Gln Arg Ala Tyr Ser Thr Pro Tyr Ser Tyr Tyr Arg Ile Ile  
 35 40 45  
 Leu Gln Lys Glu Asn Lys Glu Lys Gln Ala Leu Ala Arg His Lys Cys  
 50 55 60  
 Ile Ser Ile Leu Glu Phe Phe Lys Asn Leu Leu Phe Val His Leu Leu  
 65 70 75 80  
 Ser Leu Ser Lys Asn Gln Arg Glu Gly Cys Ser Thr Asp Met Ala Val  
 85 90 95  
 Val Ser Thr Pro Phe Phe Asn Arg Asn Leu Trp Tyr Arg Leu Leu Ser  
 100 105 110  
 Ser Arg Phe Ser Leu Trp Lys Ser Tyr Cys Pro Arg Phe Phe Leu Asp  
 115 120 125  
 Tyr Leu Glu Ala Phe Gly Leu Leu Ser Asp Phe Leu Asp His Gln Ala  
 130 135 140

Val	Ile	Lys	Phe	Phe	Glu	Leu	Glu	Thr	His	Phe	Ser	Tyr	Tyr	Pro	Val
145					150					155					160
Ser	Gly	Phe	Val	Ala	Pro	His	Gln	Tyr	Leu	Ser	Leu	Leu	Gln	Asp	Arg
				165					170						175
Tyr	Phe	Pro	Ile	Ala	Ser	Val	Met	Arg	Thr	Leu	Asp	Lys	Asp	Asn	Phe
			180					185						190	
Ser	Leu	Thr	Pro	Asp	Leu	Ile	His	Asp	Leu	Leu	Gly	His	Val	Pro	Trp
		195					200					205			
Leu	Leu	His	Pro	Ser	Phe	Ser	Glu	Phe	Phe	Ile	Asn	Met	Gly	Arg	Leu
	210					215					220				
Phe	Thr	Lys	Val	Ile	Glu	Lys	Val	Gln	Ala	Leu	Pro	Ser	Lys	Lys	Gln
225					230					235					240
Arg	Ile	Gln	Thr	Leu	Gln	Ser	Asn	Leu	Ile	Ala	Ile	Val	Arg	Cys	Phe
				245					250					255	
Trp	Phe	Thr	Val	Glu	Ser	Gly	Leu	Ile	Glu	Asn	His	Glu	Gly	Arg	Lys
			260					265						270	
Ala	Tyr	Gly	Ala	Val	Leu	Ile	Ser	Ser	Pro	Gln	Glu	Leu	Gly	His	Ala
		275					280					285			
Phe	Ile	Asp	Asn	Val	Arg	Val	Leu	Pro	Leu	Glu	Leu	Asp	Gln	Ile	Ile
	290					295					300				
Arg	Leu	Pro	Phe	Asn	Thr	Ser	Thr	Pro	Gln	Glu	Thr	Leu	Phe	Ser	Ile
305					310					315					320
Arg	His	Phe	Asp	Glu	Leu	Val	Glu	Leu	Thr	Ser	Lys	Leu	Glu	Trp	Met
				325					330					335	
Leu	Asp	Gln	Gly	Leu	Leu	Glu	Ser	Ile	Pro	Leu	Tyr	Asn	Gln	Glu	Lys
			340					345					350		
Tyr	Leu	Ser	Gly	Phe	Glu	Val	Leu	Cys	Gln						
		355					360								

<210> 1048

<211> 269

<212> PRT

<213> Chlamydia pneumoniae

<400> 1048

Phe	Gly	Ser	Arg	Asn	Met	Gly	Ser	Ser	Met	His	Val	Gly	Val	Ile	Gly
1				5					10					15	
Cys	Ser	Gly	Arg	Thr	Gly	Lys	Val	Ile	Val	Ser	Ala	Leu	Glu	Gln	Ser
			20					25					30		
Ser	Glu	Tyr	Thr	Leu	Gly	Pro	Gly	Phe	Ser	Arg	Ser	Ser	Ala	Leu	Thr
	35						40					45			
Leu	Phe	Gln	Val	Ile	Ala	His	Asn	Asp	Val	Leu	Val	Asp	Phe	Ser	His
	50					55					60				
Pro	Leu	Leu	Thr	Lys	Glu	Val	Val	Ala	His	Leu	Ile	Ser	Pro	Lys	
65					70					75				80	
Pro	Leu	Ile	Ile	Gly	Thr	Thr	Gly	Phe	Pro	Gly	Lys	Cys	Lys	Glu	Ala
			85					90						95	
His	Asp	Ser	Leu	Glu	Glu	Leu	Thr	His	Ile	Val	Pro	Val	Val	Val	Cys
			100					105					110		
Pro	Asn	Ala	Ser	Leu	Gly	Ala	Tyr	Ile	His	Lys	Arg	Leu	Val	Met	Leu
		115					120						125		
Leu	Ser	Gln	Leu	Cys	Asn	Pro	Gln	Phe	Asp	Ile	Arg	Ile	Arg	Glu	Thr
	130					135					140				
His	His	Arg	Tyr	Lys	Lys	Asp	Ser	Leu	Ser	Gly	Thr	Ala	Gln	Asp	Leu
145					150					155					160
Leu	Asp	Thr	Ile	Gln	Gln	Val	Lys	Gln	Glu	Asp	Trp	Gly	Glu	Glu	Tyr
				165					170					175	
Glu	Val	Gly	Gln	Arg	Asp	Ser	Ser	Lys	Lys	Thr	Ile	Glu	Val	Gln	Ser
			180					185					190		
Ser	Arg	Val	Gly	Asp	Ile	Pro	Gly	Glu	His	Glu	Val	Ala	Phe	Ile	Ser
		195					200						205		

Ser Gly Glu Gln Ile Leu Val Arg His Thr Val Phe Ser Arg Asn Val  
 210 215 220  
 Phe Gly Arg Gly Ile Leu Ser Ile Leu Asp Trp Leu Lys Thr Leu Asn  
 225 230 235 240  
 Pro Gln Pro Gly Leu Tyr Ser Leu Gly Asp Thr Leu Glu Leu Val Leu  
 245 250 255  
 Arg Asn Glu His Cys Leu Leu Lys Lys Thr Thr Asp His  
 260 265

<210> 1049  
 <211> 339  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 1049  
 Asp Gly Glu Arg Lys Gly Met Arg Ile Ala Val Leu Gly Val Thr Gly  
 1 5 10 15  
 Leu Val Gly Gln Lys Phe Val Ala Leu Leu His Lys Trp Tyr Arg Asp  
 20 25 30  
 Trp Val Ile Ala Glu Val Val Ala Ser Asn Ser Lys Tyr Gly Gln Ser  
 35 40 45  
 Tyr Gly Asp Ala Cys Ile Trp Gln Glu Pro Ile Gly Pro Met Pro Glu  
 50 55 60  
 Met Val Arg Asp Leu Pro Ile Arg Lys Ile Glu Glu Val Gln Ser Asp  
 65 70 75 80  
 Ile Val Val Ser Phe Leu Pro Ser Ser Ala Glu Ser Met Glu Ala Tyr  
 85 90 95  
 Cys Leu Ser Gln Gly Lys Val Val Phe Ser Asn Ala Ser Thr Tyr Arg  
 100 105 110  
 Met His Ser Ser Val Pro Ile Ile Ile Pro Glu Val Asn Ser Asp His  
 115 120 125  
 Phe Gln Leu Leu Glu Glu Gln Pro Tyr Pro Gly Lys Ile Ile Thr Ser  
 130 135 140  
 Pro Asn Cys Cys Val Ser Gly Ile Thr Leu Ala Leu Ala Pro Leu Arg  
 145 150 155 160  
 Lys Phe Ser Leu Asp His Val His Ile Val Thr Leu Gln Ser Ala Ser  
 165 170 175  
 Gly Ala Gly Tyr Pro Gly Val Pro Ser Leu Asp Leu Leu Ala Asn Thr  
 180 185 190  
 Val Pro His Ile Val Gly Glu Glu Glu Lys Ile Leu Arg Glu Thr Val  
 195 200 205  
 Lys Ile Leu Gly Ser Ser Lys Gln Pro Leu Pro Cys Lys Leu Ser Val  
 210 215 220  
 Thr Val His Arg Val Pro Val Ala Tyr Gly His Thr Leu Ser Leu His  
 225 230 235 240  
 Val Thr Phe Ser Lys Asp Val Asp Leu Asp Glu Ile Leu Tyr Ser Tyr  
 245 250 255  
 Gln Glu Lys Asn Lys Glu Phe Pro Asn Thr Tyr Gln Leu Tyr Asp Asn  
 260 265 270  
 Pro Trp Ser Pro Gln Ala Arg Lys His Leu Ser His Asp Asp Met Arg  
 275 280 285  
 Val His Leu Gly Pro Ile Thr Tyr Gly Gly Asp Phe Arg Thr Ile Lys  
 290 295 300  
 Met Asn Val Leu Ile His Asn Leu Val Arg Gly Ala Ala Gly Thr Leu  
 305 310 315 320  
 Leu Ala Ser Met Glu Asn Tyr Phe Phe Asp Tyr Leu Lys Arg Glu Met  
 325 330 335  
 Cys Leu Arg



<210> 1050  
 <211> 443  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 1050  
 Glu Gly Asn Val Ser Lys Ile Val Tyr Lys Phe Gly Gly Thr Ser Leu  
 1 5 10 15  
 Ala Thr Ala Glu Asn Ile Cys Leu Val Cys Asp Ile Ile Cys Lys Asp  
 20 25 30  
 Lys Pro Ser Phe Val Val Val Ser Ala Ile Ala Gly Val Thr Asp Leu  
 35 40 45  
 Leu Val Asp Phe Cys Ser Ser Ser Leu Arg Glu Arg Glu Glu Val Leu  
 50 55 60  
 Arg Lys Ile Glu Gly Lys His Glu Glu Ile Val Lys Asn Leu Ala Ile  
 65 70 75 80  
 Pro Phe Pro Val Ser Thr Trp Thr Ser Arg Leu Leu Pro Tyr Leu Gln  
 85 90 95  
 His Leu Glu Ile Ser Asp Leu Asp Phe Ala Arg Ile Leu Ser Leu Gly  
 100 105 110  
 Glu Asp Ile Ser Ala Ser Leu Val Arg Ala Val Cys Ser Thr Arg Gly  
 115 120 125  
 Trp Asp Leu Gly Phe Leu Glu Ala Arg Ser Val Ile Leu Thr Asp Asp  
 130 135 140  
 Ser Tyr Arg Arg Ala Ser Pro Asn Leu Asp Leu Met Lys Ala His Trp  
 145 150 155 160  
 His Gln Leu Glu Leu Asn Gln Pro Ser Tyr Ile Ile Gln Gly Phe Ile  
 165 170 175  
 Gly Ser Asn Gly Leu Gly Glu Thr Val Leu Leu Gly Arg Gly Gly Ser  
 180 185 190  
 Asp Tyr Ser Ala Thr Leu Ile Ala Glu Leu Ala Arg Ala Thr Glu Val  
 195 200 205  
 Arg Ile Tyr Thr Asp Val Asn Gly Ile Tyr Thr Met Asp Pro Lys Val  
 210 215 220  
 Ile Ser Asp Ala Gln Arg Ile Pro Glu Leu Ser Phe Glu Glu Met Gln  
 225 230 235 240  
 Asn Leu Ala Ser Phe Gly Ala Lys Val Leu Tyr Pro Pro Met Leu Phe  
 245 250 255  
 Pro Cys Met Arg Ala Gly Ile Pro Ile Phe Val Thr Ser Thr Phe Asp  
 260 265 270  
 Pro Glu Lys Gly Gly Thr Trp Val Tyr Ala Val Asp Lys Ser Val Ser  
 275 280 285  
 Tyr Glu Pro Arg Ile Lys Ala Leu Ser Leu Ser Gln Tyr Gln Ser Phe  
 290 295 300  
 Cys Ser Val Asp Tyr Thr Val Leu Gly Cys Gly Gly Leu Glu Glu Ile  
 305 310 315 320  
 Leu Gly Ile Leu Glu Ser His Gly Ile Asp Pro Glu Leu Met Ile Ala  
 325 330 335  
 Gln Asn Asn Val Val Gly Phe Val Met Asp Asp Asp Ile Ile Ser Gln  
 340 345 350  
 Glu Ala Gln Glu His Leu Val Asp Val Leu Ser Leu Ser Ser Val Thr  
 355 360 365  
 Arg Leu His His Ser Val Ala Leu Ile Thr Met Ile Gly Asp Asn Leu  
 370 375 380  
 Ser Ser Pro Lys Val Val Ser Thr Ile Thr Glu Lys Leu Arg Gly Phe  
 385 390 395 400  
 Gln Gly Pro Val Phe Cys Phe Cys Gln Ser Ser Met Ala Leu Ser Phe  
 405 410 415  
 Val Val Ala Ser Glu Leu Ala Glu Gly Ile Ile Glu Glu Leu His Asn  
 420 425 430

Asp Tyr Val Lys Gln Lys Ala Ile Val Ala Thr  
 435 440

<210> 1051  
 <211> 305  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 1051  
 Leu Cys Lys Thr Lys Ser Tyr Ser Arg His Val Gly Arg Ile Met His  
 1 5 10 15  
 Leu Leu Thr Ala Thr Val Thr Pro Phe Phe Pro Asn Gly Thr Ile Asp  
 20 25 30  
 Phe Ala Ser Leu Glu Arg Leu Leu Ser Phe Gln Asp Ala Val Gly Asn  
 35 40 45  
 Gly Val Val Leu Leu Gly Ser Thr Gly Glu Gly Leu Ser Leu Thr Lys  
 50 55 60  
 Lys Glu Lys Gln Ala Leu Ile Cys Phe Ala Cys Asp Leu Gln Leu Lys  
 65 70 75 80  
 Val Pro Leu Phe Val Gly Thr Ser Gly Thr Leu Leu Glu Glu Val Leu  
 85 90 95  
 Asp Trp Ile His Phe Cys Asn Asp Leu Pro Ile Ser Gly Phe Leu Met  
 100 105 110  
 Thr Thr Pro Ile Tyr Thr Lys Pro Lys Leu Cys Gly Gln Ile Leu Trp  
 115 120 125  
 Phe Glu Ala Val Leu Asn Ala Ala Lys His Pro Ala Ile Leu Tyr Asn  
 130 135 140  
 Ile Pro Ser Arg Ala Ala Thr Pro Leu Tyr Leu Asp Thr Val Lys Ala  
 145 150 155 160  
 Leu Ala His His Pro Gln Phe Leu Gly Ile Lys Asp Ser Gly Gly Ser  
 165 170 175  
 Val Glu Glu Phe Gln Ser Tyr Lys Ser Ile Ala Pro His Ile Gln Leu  
 180 185 190  
 Tyr Cys Gly Asp Asp Val Phe Trp Ser Glu Met Ala Ala Cys Gly Ala  
 195 200 205  
 His Gly Leu Ile Ser Val Leu Ser Asn Ala Trp Pro Glu Glu Ala Arg  
 210 215 220  
 Glu Tyr Val Leu Asn Pro Gln Glu Gln Asp Tyr Arg Ser Leu Trp Met  
 225 230 235 240  
 Glu Thr Cys Arg Trp Val Tyr Thr Thr Thr Asn Pro Ile Gly Ile Lys  
 245 250 255  
 Ala Ile Leu Ala Tyr Lys Lys Ala Ile Thr His Ala Gln Leu Arg Leu  
 260 265 270  
 Pro Leu Ser Ile Glu Asp Phe Asp Leu Glu Asn Val Ser Pro Ala Val  
 275 280 285  
 Glu Ser Met Leu Ala Trp Pro Lys Leu Arg Thr Ser Val Phe Ser Tyr  
 290 295 300  
 Ser  
 305

<210> 1052  
 <211> 105  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 1052  
 Phe Phe Met Thr Pro Lys Ser Ile Gln Gln Leu His Leu Ile Lys Thr  
 1 5 10 15  
 Ile Asp Pro Val Arg Lys Ile Ser Pro Val Thr Thr Lys Lys Ser Ser  
 20 25 30

Phe Phe Arg Gln Ser Leu Leu Arg Phe Leu Glu Leu Phe Trp Met Phe  
           35                          40                          45  
 Leu Tyr Cys Ile Arg Ser Ile Arg Phe His Cys Val His Ile Ala Thr  
           50                          55                          60  
 Phe Ile Cys Arg Gly Leu Ile Leu Phe Leu Thr Thr Leu Phe Leu Ser  
 65                          70                          75                          80  
 Met Ile Cys Ile Leu His Phe Ile Thr Leu Pro Trp Ile Cys Lys Glu  
                           85                          90                          95  
 Asp Pro Arg Ile Ile Arg Lys Asn Lys  
                           100                          105

<210> 1053  
 <211> 256  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 1053  
 Phe Phe Ile Gln Lys Met Lys Tyr Asn Ser Arg Glu Lys Ile Lys Ser  
 1                          5                          10                          15  
 Ala Leu Arg Ile Cys Ser Ser Tyr Cys Ile Thr Val Phe Arg Asn Asn  
                           20                          25                          30  
 Phe Ser Leu Ser Cys Tyr Asp Lys Ile Phe Tyr Ser Leu Ser Cys Tyr  
                           35                          40                          45  
 Val Phe Asn Gly Pro Asn Ser Ile Gly Arg Cys Arg Ser Phe Cys Phe  
                           50                          55                          60  
 Phe Arg Gly Lys Lys Thr Glu Val Glu Thr Lys Glu Val Lys Ile Lys  
 65                          70                          75                          80  
 Asp Glu Ile Arg Pro Ser Leu Glu Gly Asn Asp Pro Val Lys Val Ala  
                           85                          90                          95  
 Glu Ser Phe Pro Lys Arg Arg Ala Ala Leu Glu Ser Leu Ser Ser Gln  
                           100                          105                          110  
 Ser Ser Ile Gly Asn Leu Cys Ala Ile Ser Asn Phe Leu Asp Ser Gln  
                           115                          120                          125  
 Met Leu Ser Arg Asn Phe Ser Lys Glu Ile Trp Gly Ser Thr Ile Phe  
                           130                          135                          140  
 Thr Arg Ser Lys Ser Thr Cys Asp Ala Glu Gly Ser Glu Pro Phe Arg  
 145                          150                          155                          160  
 Tyr Thr Ala Cys Gly Tyr Leu Ala Gly Leu Arg Ser Lys Leu Ala Gly  
                           165                          170                          175  
 Ser Tyr Glu Leu Gly Val Thr Ala Gly Leu Leu Gln Gly Arg Leu Lys  
                           180                          185                          190  
 Asp Val Ser Asp Ser His Arg Thr Arg Ala Thr Ser Ser Ile Leu Ser  
                           195                          200                          205  
 Val His Gly Ser Met Val Thr Arg Pro Leu Ser Cys Thr Lys Tyr Ile  
                           210                          215                          220  
 Val Gly Lys Ala Arg Pro Leu Leu Phe Phe Phe Arg Leu Thr Ser Asp  
 225                          230                          235                          240  
 Val Arg Arg Asp Leu Lys Lys Lys Phe Arg Leu Glu Phe Cys Lys Asp  
                           245                          250                          255

<210> 1054  
 <211> 188  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 1054  
 Lys Lys Ser Ser Asp Leu Asn Phe Ala Lys Ile Asp His Asn His Leu  
 1                          5                          10                          15  
 Tyr Leu Thr Cys Leu Gly Asp Leu Gly Val Ala Cys Pro Ile Leu Ser  
                           20                          25                          30

Thr Asp Cys Leu Pro Asn Tyr Ser Glu Lys Ala Ser His Glu Val Leu  
 35 40 45  
 Val Tyr Ser Lys Phe Arg Cys Ile Ser Gly Glu Pro Ser Arg Leu Ala  
 50 55 60  
 Thr Ser Gly Asn Asp Thr Tyr Tyr Ser Ile Val Ser Leu Pro Ile Gly  
 65 70 75 80  
 Leu Arg Tyr Glu Val Thr Ser Pro Ser Gly Arg His Asp Phe Asn Ile  
 85 90 95  
 Asp Met His Val Ala Pro Lys Ile Gly Ala Val Leu Ser His Gly Thr  
 100 105 110  
 Arg Glu Ala Lys Glu Ile Pro Gly Ser Ser Lys Asp Tyr Ala Phe Phe  
 115 120 125  
 Ser Leu Thr Ala Arg Glu Ser Leu Met Ile Ser Glu Lys Leu Ala Met  
 130 135 140  
 Thr Phe Gln Val Ser Glu Val Ile Gln Asn Cys Tyr Ser Gln Cys Thr  
 145 150 155 160  
 Lys Val Thr Lys Thr Asn Leu Lys Glu Gln Tyr Arg His Leu Ser His  
 165 170 175  
 Asn Thr Gly Phe Glu Leu Ser Val Lys Ser Ala Phe  
 180 185

<210> 1055

<211> 819

<212> PRT

<213> Chlamydia pneumoniae

<400> 1055

Ser Arg Trp His His Arg Phe Ile Met Gln Val Leu Leu Ser Pro Gln  
 1 5 10 15  
 Leu Pro Pro Pro Pro Gln His Ser Val Gly Ser Ile Ser Ser Pro Ser  
 20 25 30  
 Lys Leu Arg Val Leu Ala Ile Thr Phe Leu Val Phe Gly Met Leu Leu  
 35 40 45  
 Leu Ile Ser Gly Ala Leu Phe Leu Thr Leu Gly Ile Pro Gly Leu Ser  
 50 55 60  
 Ala Ala Ile Ser Phe Gly Leu Gly Ile Gly Leu Ser Ala Leu Gly Gly  
 65 70 75 80  
 Val Leu Met Ile Ser Gly Leu Leu Cys Leu Leu Val Lys Arg Glu Ile  
 85 90 95  
 Pro Thr Val Arg Pro Glu Glu Ile Pro Glu Gly Val Ser Leu Ala Pro  
 100 105 110  
 Ser Glu Glu Pro Ala Leu Gln Ala Gln Lys Thr Leu Ala Gln Leu  
 115 120 125  
 Pro Lys Glu Leu Asp Gln Leu Asp Thr Asp Ile Gln Glu Val Phe Ala  
 130 135 140  
 Cys Leu Arg Lys Leu Lys Asp Ser Lys Tyr Glu Ser Arg Ser Phe Leu  
 145 150 155 160  
 Asn Asp Ala Lys Lys Glu Leu Arg Val Phe Asp Phe Val Val Glu Asp  
 165 170 175  
 Thr Leu Ser Glu Ile Phe Glu Leu Arg Gln Ile Val Ala Gln Glu Gly  
 180 185 190  
 Trp Asp Leu Asn Phe Leu Ile Asn Gly Gly Arg Ser Leu Met Met Thr  
 195 200 205  
 Ala Glu Ser Glu Ser Leu Asp Leu Phe His Val Ser Lys Arg Leu Gly  
 210 215 220  
 Tyr Leu Pro Ser Gly Asp Val Arg Gly Glu Gly Leu Lys Lys Ser Ala  
 225 230 235 240  
 Lys Glu Ile Val Ala Arg Leu Met Ser Leu His Cys Glu Ile His Lys  
 245 250 255  
 Val Ala Val Ala Phe Asp Arg Asn Ser Tyr Ala Met Ala Glu Lys Ala  
 260 265 270

Phe Ala Lys Ala Leu Gly Ala Leu Glu Glu Ser Val Tyr Arg Ser Leu  
275 280 285  
Thr Gln Ser Tyr Arg Asp Lys Phe Leu Glu Ser Glu Arg Ala Lys Ile  
290 295 300  
Pro Trp Asn Gly His Ile Thr Trp Leu Arg Asp Asp Ala Lys Ser Gly  
305 310 315 320  
Cys Ala Glu Lys Lys Leu Arg Asp Ala Glu Glu Arg Trp Lys Lys Phe  
325 330 335  
Arg Lys Ala Val Phe Trp Val Glu Glu Asp Gly Gly Phe Asp Ile Asn  
340 345 350  
Asn Leu Leu Gly Asp Trp Gly Thr Val Leu Asp Pro Tyr Arg Gln Glu  
355 360 365  
Arg Met Asp Glu Ile Thr Phe His Glu Leu Tyr Glu Lys Thr Thr Phe  
370 375 380  
Leu Lys Arg Leu His Arg Lys Cys Ala Leu Ala Lys Thr Thr Phe Glu  
385 390 395 400  
Lys Lys Arg Ser Lys Lys Asn Leu Gln Ala Val Glu Glu Ala Asn Ala  
405 410 415  
Arg Arg Leu Lys Tyr Val Arg Asp Trp Tyr Asp Gln Glu Phe Gln Lys  
420 425 430  
Ala Gly Glu Arg Leu Glu Lys Leu His Ala Leu Tyr Pro Glu Val Ser  
435 440 445  
Val Ser Ile Arg Glu Asn Lys Ile Gln Glu Thr Arg Ser Asn Leu Glu  
450 455 460  
Lys Ala Tyr Glu Ala Ile Glu Glu Asn Tyr Arg Cys Cys Val Arg Glu  
465 470 475 480  
Gln Glu Asp Tyr Trp Lys Glu Glu Glu Lys Arg Glu Ala Glu Phe Arg  
485 490 495  
Glu Arg Gly Asn Lys Ile Leu Ser Pro Glu Glu Leu Glu Ser Ser Leu  
500 505 510  
Glu Gln Phe Asp His Gly Leu Lys Asn Phe Ser Glu Lys Leu Met Glu  
515 520 525  
Leu Glu Gly His Ile Leu Lys Leu Gln Lys Glu Ala Thr Ala Glu Val  
530 535 540  
Glu Asn Lys Ile Leu Ser Asp Ala Glu Ser Arg Leu Glu Ile Val Phe  
545 550 555 560  
Glu Asp Val Lys Glu Met Pro Cys Arg Ile Glu Glu Ile Glu Lys Thr  
565 570 575  
Leu Arg Met Ala Glu Leu Pro Leu Leu Pro Thr Lys Lys Ala Phe Glu  
580 585 590  
Lys Ala Cys Ser Gln Tyr Asn Ser Cys Ala Glu Met Leu Glu Lys Val  
595 600 605  
Lys Pro Tyr Cys Lys Glu Ser Leu Ala Tyr Val Thr Ser Lys Glu Arg  
610 615 620  
Leu Val Ser Leu Asp Glu Asp Leu Arg Arg Ala Tyr Thr Glu Cys Gln  
625 630 635 640  
Lys Arg Phe Gln Gly Asp Ser Gly Leu Glu Ser Glu Val Arg Ala Cys  
645 650 655  
Arg Glu Gln Leu Arg Glu Arg Ile Gln Glu Phe Glu Thr Gln Gly Leu  
660 665 670  
Asp Leu Val Glu Lys Glu Leu Leu Cys Val Ser Ser Arg Leu Arg Asn  
675 680 685  
Thr Glu Cys Asp Cys Val Ser Gly Val Lys Lys Glu Ala Pro Pro Gly  
690 695 700  
Lys Lys Phe Tyr Ala Gln Tyr Tyr Asp Glu Ile Tyr Arg Val Arg Val  
705 710 715 720  
Gln Ser Arg Trp Met Thr Met Ser Glu Arg Leu Arg Glu Gly Val Gln  
725 730 735  
Ala Cys Asn Lys Met Leu Lys Ala Gly Leu Ser Glu Glu Asp Lys Val  
740 745 750

Leu Lys Glu Glu Glu Tyr Trp Leu Tyr Arg Glu Glu Arg Lys Asn Lys  
           755                          760                          765  
 Glu Lys Arg Leu Val Gly Thr Lys Ile Val Ala Thr Gln Gln Arg Val  
           770                          775                          780  
 Ala Ala Phe Glu Ser Ile Glu Val Pro Glu Ile Pro Glu Ala Pro Glu  
 785                          790                          795                          800  
 Glu Lys Pro Ser Leu Leu Asp Lys Ala Arg Ser Leu Phe Thr Arg Glu  
                           805                          810                          815  
 Asp His Thr

<210> 1056  
 <211> 313  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 1056  
 Cys Lys Tyr Leu Tyr His His Ser Tyr Pro Pro Pro Pro Asp His Ser  
 1                          5                          10                          15  
 Val Gly Ala Phe Phe Cys Leu Ser Lys Phe Arg Val Leu Ala Ile Thr  
           20                          25                          30  
 Phe Leu Val Leu Gly Val Leu Phe Leu Ile Ser Gly Ala Leu Phe Leu  
           35                          40                          45  
 Thr Leu Gly Ile Ser Gly Leu Ser Ala Ala Ile Ser Phe Gly Leu Gly  
 50                          55                          60  
 Ile Gly Leu Ser Ala Leu Gly Gly Val Leu Val Val Ser Gly Leu Leu  
 65                          70                          75                          80  
 Cys Leu Leu Ala Lys Arg Glu Val Pro Thr Val Arg Pro Glu Glu Ile  
           85                          90                          95  
 Pro Glu Gly Val Ser Val Ala Pro Ser Glu Glu Pro Ala Leu Gln Ala  
           100                          105                          110  
 Thr Gln Lys Thr Leu Ala Gln Leu Pro Lys Glu Leu Asp Gln Leu Asp  
           115                          120                          125  
 Arg Tyr Ile Gln Glu Val Val Ser Cys Leu Gly Lys Leu Lys Asp Leu  
 130                          135                          140  
 Arg Cys Glu Asp Gln Gly Leu Leu Lys Asp Ala Lys Glu Lys Leu Gln  
 145                          150                          155                          160  
 Val Phe Asp Phe Val Trp Lys Asp Met Met Thr Glu Phe Val Glu Leu  
           165                          170                          175  
 Gln Gln Ile Met Asp Gln Glu Gly Trp Tyr Leu Lys Cys Leu Ile Gln  
           180                          185                          190  
 Glu Met Arg Asp Ile Gly Ser Thr Leu Phe Met Ser Gln Val Ser Leu  
           195                          200                          205  
 Phe Lys Leu Trp Glu Trp Leu Gly Tyr Leu Pro Ser Gly Asp Val Arg  
           210                          215                          220  
 Gly Glu Arg Leu Lys Lys Ser Ala Arg Glu Val Val Asp Arg Phe Met  
 225                          230                          235                          240  
 Arg Arg Ile Cys Asp Thr Arg Lys Val Ala Met Thr Phe Asp Arg Asn  
           245                          250                          255  
 Ala Tyr Gly Val Ala Lys Thr Ala Phe Glu Lys Ala Phe Gly Ala Leu  
           260                          265                          270  
 Glu Thr Cys Val Tyr Lys Ser Met Thr Glu Ser Tyr Arg Glu Ala Phe  
           275                          280                          285  
 Cys Glu Tyr Lys Lys Thr Lys Ile Leu Arg Asp Glu Glu Lys Ile Leu  
           290                          295                          300  
 Arg Ile Cys Tyr Leu Glu Leu Arg Arg  
 305                          310

<210> 1057  
 <211> 249  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 1057  
 Gly Glu Asp Ile Lys Asp Met Leu Ser Arg Val Glu Glu Ile Glu Met  
 1 5 10 15  
 Met Leu Arg Val Ile Glu Leu Pro Leu Leu Pro Ile Lys Gln Ala Leu  
 20 25 30  
 Glu Lys Ala Phe Val Gln Tyr Asn Ser Tyr Lys Ala Lys Leu Thr Lys  
 35 40 45  
 Val Glu Pro Cys Phe Arg Glu Ser Pro Ala Tyr Ile Thr Ser Glu Glu  
 50 55 60  
 Arg Leu Gln Ser Leu Asp Gln Thr Leu Glu Arg Ala Tyr Lys Glu Tyr  
 65 70 75 80  
 Gln Lys Arg Phe Gln Glu Pro Ser Arg Leu Glu Ser Glu Val Ser Gly  
 85 90 95  
 Cys Arg Glu His Leu Arg Glu Gln Val Lys Gln Phe Glu Thr Gln Gly  
 100 105 110  
 Leu Asp Leu Ile Lys Glu Glu Leu Ile Phe Val Ser Asp Val Leu Phe  
 115 120 125  
 Arg Lys Met Val Ser Cys Leu Val Ser Thr Val His Val Pro Phe Met  
 130 135 140  
 Glu Phe Tyr Tyr Glu Tyr Phe Glu Leu His Arg Leu Arg Leu Arg Ala  
 145 150 155 160  
 Gln Trp Met Ala Asn Ala Glu Ile Tyr Ser Lys Val Arg Lys Ala Phe  
 165 170 175  
 Pro Glu Met Leu Lys Glu Thr Leu Glu Lys Ala Lys Ala Pro Arg Glu  
 180 185 190  
 Glu Glu Tyr Trp Leu Leu Cys Glu Glu Arg Lys Ser Lys Glu Lys Arg  
 195 200 205  
 Leu Ile Leu Asn Lys Ile Glu Ala Ala Gln Gln Arg Val Lys Asp Leu  
 210 215 220  
 Glu Pro Pro Pro Ile Lys Glu Thr Gly Lys Gln Lys Arg Lys Lys Glu  
 225 230 235 240  
 Tyr Ser Phe Phe Ile Arg Leu Lys Ser  
 245

<210> 1058  
 <211> 710  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 1058  
 Ile Ile His Phe Tyr Phe Phe Asn Phe Ala Met Pro Glu Pro Leu Tyr  
 1 5 10 15  
 Thr Asn Lys Leu Ile Thr Glu Lys Ser Pro Tyr Leu Leu Leu Tyr Ala  
 20 25 30  
 His Thr Pro Val Asn Trp Tyr Pro Trp Gly Ala Glu Ala Phe His Ile  
 35 40 45  
 Ala Ala Ile Glu Asn Lys Pro Val Phe Leu Ser Ile Gly Cys Lys His  
 50 55 60  
 Ser Arg Trp Cys Gln Val Met Leu Gln Glu Ser Tyr Thr Asn Pro Glu  
 65 70 75 80  
 Ile Ala Ala Met Leu Asn Glu Tyr Phe Val Asn Val Lys Val Asp Lys  
 85 90 95  
 Glu Glu Leu Pro Tyr Val Ala Lys Leu Tyr Gly Asp Leu Ala Gln Met  
 100 105 110  
 Leu Ala Val Ser Gly Asp His Gln Glu Thr Val Ser Trp Pro Leu Asn  
 115 120 125

Val	Phe	Leu	Thr	Pro	Asp	Leu	Val	Pro	Phe	Phe	Ser	Val	Asn	Tyr	Leu
130						135					140				
Gly	Asn	Glu	Gly	Lys	Leu	Gly	Leu	Pro	Ser	Phe	Pro	Gln	Ile	Ile	Asp
145					150					155					160
Lys	Leu	His	Phe	Met	Trp	Glu	Asp	Ala	Glu	Glu	Arg	Glu	Ala	Leu	Val
				165					170						175
Glu	Gln	Ala	Met	Lys	Val	Leu	Glu	Ile	Ala	Ser	Phe	Leu	Glu	Gly	Cys
			180					185					190		
Val	Arg	Lys	Glu	Ile	Leu	Asp	Glu	Ser	Ser	Leu	Lys	Arg	Thr	Val	Ala
	195						200					205			
Ala	Leu	Tyr	Gln	Asp	Ile	Asp	Pro	His	Tyr	Gly	Gly	Val	Lys	Ala	Phe
	210					215					220				
Pro	Lys	Arg	Leu	Pro	Gly	Leu	Leu	Leu	Gln	Phe	Phe	Leu	Arg	Tyr	Ser
225					230					235					240
Leu	Glu	Tyr	Gln	Glu	Ser	Arg	Gly	Leu	Phe	Phe	Val	Asp	Arg	Ser	Leu
				245					250					255	
Ser	Met	Val	Ala	Leu	Gly	Gly	Val	Arg	Asp	His	Ile	Gly	Gly	Gly	Val
		260						265					270		
Tyr	Ser	Tyr	Thr	Ile	Asp	Asp	Lys	Trp	Leu	Ile	Pro	Ala	Phe	Glu	Lys
		275					280					285			
Arg	Leu	Ile	Asp	Asn	Ala	Leu	Met	Ala	Leu	Asn	Tyr	Leu	Glu	Ala	Trp
	290					295					300				
Ala	Cys	Leu	Gly	Lys	Glu	Glu	Tyr	Arg	Gly	Ile	Gly	Lys	Gln	Ile	Leu
305					310					315					320
Ser	Tyr	Ile	Leu	Ser	Glu	Leu	Tyr	Ser	Pro	Glu	Val	Gly	Ala	Phe	Tyr
				325					330					335	
Ser	Ser	Glu	Gln	Ala	Glu	Asn	Trp	Gly	Ala	Gly	Gly	Gln	Asn	Phe	Tyr
		340						345					350		
Thr	Trp	Ser	Val	Glu	Glu	Ile	Ser	Asn	Ala	Leu	Gly	Glu	Asp	Ala	Glu
		355					360						365		
Ile	Phe	Cys	Asp	Tyr	Tyr	Gly	Ile	Ser	Arg	Glu	Gly	Phe	Phe	Asn	Gly
	370					375					380				
Arg	Asn	Ile	Leu	His	Ile	Pro	Val	His	Arg	Glu	Ile	Glu	Glu	Leu	Ser
385					390					395					400
Glu	Lys	Tyr	His	Arg	Ser	Ile	Glu	Ala	Ile	Glu	Asp	Ile	Val	Asp	Arg
				405					410					415	
Ser	Arg	Asp	Ile	Leu	Lys	Gly	Ile	Arg	Ala	Gln	Arg	Ser	His	Arg	Ser
		420						425					430		
Lys	Asp	Asp	Leu	Ser	Leu	Thr	Phe	Asn	Asn	Gly	Trp	Met	Ile	Tyr	Thr
		435					440						445		
Phe	Ala	Tyr	Ala	Gly	Arg	Leu	Leu	Gly	Glu	Val	Glu	Tyr	Ile	Glu	Ile
	450					455					460				
Gly	Lys	Lys	Cys	Gly	Glu	Phe	Val	Arg	Asn	Ser	Leu	Tyr	Lys	His	His
465					470					475					480
Glu	Leu	Tyr	Arg	Arg	Trp	Arg	Glu	Gly	Glu	Ala	Lys	Tyr	Arg	Ala	Ser
				485					490					495	
Leu	Glu	Asp	Tyr	Gly	Ala	Leu	Ile	Leu	Gly	Val	Leu	Ala	Leu	Tyr	Glu
		500						505				510			
Ser	Gly	Cys	Gly	Ser	Phe	Trp	Leu	Ser	Phe	Ala	Glu	Glu	Leu	Met	Gln
		515					520					525			
Glu	Val	Val	Leu	Ser	Phe	Arg	Ser	Glu	Glu	Gly	Gly	Phe	Tyr	Ser	Val
	530					535					540				
Asp	Gly	Arg	Asp	Ser	Thr	Leu	Leu	Ile	Lys	Gln	Ser	Pro	Leu	Ser	Asp
545					550					555					560
Gly	Glu	Thr	Ile	Ser	Gly	Asn	Ala	Leu	Ile	Cys	Gln	Cys	Leu	Leu	Ser
				565					570					575	
Leu	His	Leu	Ile	Thr	Glu	Lys	Lys	His	Tyr	Leu	Thr	Tyr	Ala	Glu	Asp
		580						585					590		
Ile	Leu	Gln	Ile	Ala	Gln	Ala	Cys	Ala	His	Thr	His	Lys	Phe	Ser	Ser
	595						600					605			



Leu Gly Leu Leu Ile Ala Ser Gln Asn Tyr Phe Ser Arg Lys His Val  
 610 615 620  
 Lys Val Leu Ile Ala Leu Gly Asp Gln Glu Asp Arg Ser Pro Val Leu  
 625 630 635 640  
 Lys Cys Leu Ser Gly Leu Phe Leu Pro Tyr Leu Ser Leu Ile Trp Met  
 645 650 655  
 Thr Gln Glu Asn Gln Glu His Leu Glu Thr Val Leu Pro Glu Tyr Glu  
 660 665 670  
 His Cys Leu Ile Pro Lys Gly Asp Cys Thr Ala Thr Thr Ile Tyr Val  
 675 680 685  
 Leu Glu Val Asp Gln Cys Lys Arg Phe Lys Asp Leu Glu Leu Phe Arg  
 690 695 700  
 Arg Tyr Leu Ile Ser Leu  
 705 710

<210> 1059  
 <211> 365  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 1059  
 Glu Val Met Lys Leu Tyr Gln Thr Leu Arg Gly Ile Val Leu Val Ser  
 1 5 10 15  
 Thr Gly Cys Ile Phe Leu Gly Met His Gly Gly Tyr Ala Ala Glu Val  
 20 25 30  
 Pro Val Thr Ser Ser Gly Tyr Glu Asn Leu Leu Glu Ser Lys Glu Gln  
 35 40 45  
 Asp Pro Ser Gly Leu Ala Ile His Asp Arg Ile Leu Phe Lys Val Asp  
 50 55 60  
 Glu Glu Asn Val Val Thr Ala Leu Asp Val Ile His Lys Leu Asn Leu  
 65 70 75 80  
 Leu Phe Tyr Asn Ser Tyr Pro His Leu Ile Asp Ser Phe Pro Ala Arg  
 85 90 95  
 Ser Gln Tyr Tyr Thr Ala Met Trp Pro Val Val Leu Glu Ser Val Ile  
 100 105 110  
 Asp Glu Phe Leu Met Val Ala Asp Ala Lys Ala Lys Arg Ile Ala Thr  
 115 120 125  
 Asp Pro Thr Ala Val Asn Gln Glu Ile Glu Glu Met Phe Gly Arg Asp  
 130 135 140  
 Leu Ser Pro Leu Tyr Ala His Phe Glu Met Ser Pro Asn Asp Ile Phe  
 145 150 155 160  
 Asn Val Ile Asp Arg Thr Leu Thr Ala Gln Arg Val Met Gly Met Met  
 165 170 175  
 Val Arg Ser Lys Val Met Leu Lys Val Thr Pro Gly Lys Ile Arg Glu  
 180 185 190  
 Tyr Tyr Arg Lys Leu Glu Glu Glu Ala Ser Arg Lys Val Ile Trp Lys  
 195 200 205  
 Tyr Arg Val Leu Thr Ile Lys Ala Asn Thr Glu Ser Leu Ala Ser Gln  
 210 215 220  
 Ile Ala Asp Lys Val Arg Ala Arg Leu Asn Glu Ala Lys Thr Trp Asp  
 225 230 235 240  
 Lys Asp Arg Leu Thr Ala Leu Val Ile Ser Gln Gly Gly Gln Leu Val  
 245 250 255  
 Cys Ser Glu Glu Phe Ser Arg Glu Asn Ser Glu Leu Ser Gln Ser His  
 260 265 270  
 Lys Gln Glu Leu Asp Leu Ile Gly Tyr Pro Lys Glu Leu Cys Gly Leu  
 275 280 285  
 Pro Lys Ala His Lys Ser Gly Tyr Lys Leu Tyr Met Leu Leu Asp Lys  
 290 295 300  
 Thr Ser Gly Ser Ile Glu Pro Leu Asp Val Met Glu Ser Lys Ile Lys  
 305 310 315 320

Gln His Leu Phe Ala Leu Glu Ala Glu Ser Val Glu Lys Gln Tyr Lys  
 325 330 335  
 Asp Arg Leu Arg Lys Arg Tyr Gly Tyr Asp Ala Ser Met Ile Ala Lys  
 340 345 350  
 Leu Leu Ser Glu Glu Ala Pro Pro Leu Phe Ser Leu Leu  
 355 360 365

<210> 1060  
 <211> 277  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 1060  
 Val Thr Arg Ser Ser Pro Ala Gln Leu Ser Arg Phe Leu Ser Glu Ile  
 1 5 10 15  
 Gln Asn Lys Pro Lys Lys Ser Leu Ser Gln Asn Phe Leu Val Asp Gln  
 20 25 30  
 Asn Ile Val Lys Lys Ile Val Ala Thr Ser Glu Val Ile Pro Gln Asp  
 35 40 45  
 Trp Val Leu Glu Ile Gly Pro Gly Phe Gly Ala Leu Thr Glu Glu Leu  
 50 55 60  
 Ile Ala Ala Gly Ala Gln Val Ile Ala Ile Glu Lys Asp Pro Met Phe  
 65 70 75 80  
 Ala Pro Ser Leu Glu Glu Leu Pro Ile Arg Leu Glu Ile Ile Asp Ala  
 85 90 95  
 Cys Lys Tyr Pro Leu Asp Gln Leu Gln Glu Tyr Lys Thr Leu Gly Lys  
 100 105 110  
 Gly Arg Val Val Ala Asn Leu Pro Tyr His Ile Thr Thr Pro Leu Leu  
 115 120 125  
 Thr Lys Leu Phe Leu Glu Ala Pro Asp Phe Trp Lys Thr Val Thr Val  
 130 135 140  
 Met Val Gln Asp Glu Val Ala Arg Arg Ile Val Ala Gln Pro Gly Gly  
 145 150 155 160  
 Arg Asp Tyr Gly Ser Leu Thr Ile Phe Leu Gln Phe Phe Ala Asp Ile  
 165 170 175  
 His Tyr Ala Phe Lys Val Ser Ala Ser Cys Phe Tyr Pro Lys Pro Gln  
 180 185 190  
 Val Gln Ser Ala Val Ile His Met Lys Val Lys Glu Thr Leu Pro Leu  
 195 200 205  
 Ser Asp Glu Glu Ile Pro Val Phe Phe Thr Leu Thr Arg Thr Ala Phe  
 210 215 220  
 Gln Gln Arg Arg Lys Val Leu Ala Asn Thr Leu Lys Gly Leu Tyr Pro  
 225 230 235 240  
 Lys Glu Gln Val Glu Gln Ala Leu Lys Glu Leu Gly Leu Leu Leu Asn  
 245 250 255  
 Val Arg Pro Glu Val Leu Ser Leu Asn Asp Tyr Leu Ala Leu Phe His  
 260 265 270  
 Lys Met Gln Ala Gly  
 275

<210> 1061  
 <211> 656  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 1061  
 Tyr Lys Arg Phe Leu Tyr Ile His Ile Thr Lys Val Met Thr Ser Ser  
 1 5 10 15  
 Ser Cys Pro Leu Leu Asp Leu Ile Leu Ser Pro Ala Asp Leu Lys Lys  
 20 25 30

Leu Ser Ile Ser Gln Leu Pro Gly Leu Ala Glu Glu Ile Arg Tyr Arg  
 35 40 45  
 Ile Ile Ser Val Leu Ser Gln Thr Gly Gly His Leu Ser Ser Asn Leu  
 50 55 60  
 Gly Ile Val Glu Leu Thr Ile Ala Leu His Tyr Val Phe Ser Ser Pro  
 65 70 75 80  
 Lys Asp Lys Phe Ile Phe Asp Val Gly His Gln Thr Tyr Pro His Lys  
 85 90 95  
 Leu Leu Thr Gly Arg Asn Asn Glu Gly Phe Asp His Ile Arg Asn Asp  
 100 105 110  
 Asn Gly Leu Ser Gly Phe Thr Asn Pro Thr Glu Ser Asp His Asp Leu  
 115 120 125  
 Phe Phe Ser Gly His Ala Gly Thr Ala Leu Ser Leu Ala Leu Gly Met  
 130 135 140  
 Ala Gln Thr Thr Pro Leu Glu Ser Arg Thr His Val Ile Pro Ile Leu  
 145 150 155 160  
 Gly Asp Ala Ala Phe Ser Cys Gly Leu Thr Leu Glu Ala Leu Asn Asn  
 165 170 175  
 Ile Ser Thr Asp Leu Ser Lys Phe Val Val Ile Leu Asn Asp Asn Asn  
 180 185 190  
 Met Ser Ile Ser Lys Asn Val Gly Ala Met Ser Arg Ile Phe Ser Arg  
 195 200 205  
 Trp Leu His His Pro Ala Thr Asn Lys Leu Thr Lys Gln Val Glu Lys  
 210 215 220  
 Trp Leu Ala Lys Ile Pro Arg Tyr Gly Asp Ser Leu Ala Lys His Ser  
 225 230 235 240  
 Arg Arg Leu Ser Gln Cys Val Lys Asn Leu Phe Cys Pro Thr Pro Leu  
 245 250 255  
 Phe Glu Gln Phe Gly Leu Ala Tyr Val Gly Pro Ile Asp Gly His Asn  
 260 265 270  
 Val Lys Lys Leu Ile Pro Ile Leu Gln Ser Val Arg Asn Leu Pro Phe  
 275 280 285  
 Pro Ile Leu Val His Val Cys Thr Thr Lys Gly Lys Gly Leu Asp Gln  
 290 295 300  
 Ala Gln Asn Asn Pro Ala Lys Tyr His Gly Val Arg Ala Asn Phe Asn  
 305 310 315 320  
 Lys Arg Glu Ser Ala Lys His Leu Pro Ala Ile Lys Pro Lys Pro Ser  
 325 330 335  
 Phe Pro Asp Ile Phe Gly Gln Thr Leu Cys Glu Leu Gly Glu Val Ser  
 340 345 350  
 Ser Arg Leu His Val Val Thr Pro Ala Met Ser Ile Gly Ser Arg Leu  
 355 360 365  
 Glu Gly Phe Lys Gln Lys Phe Pro Glu Arg Phe Phe Asp Val Gly Ile  
 370 375 380  
 Ala Glu Gly His Ala Val Thr Phe Ser Ala Gly Ile Ala Lys Ala Gly  
 385 390 395 400  
 Asn Pro Val Ile Cys Ser Ile Tyr Ser Thr Phe Leu His Arg Ala Leu  
 405 410 415  
 Asp Asn Val Phe His Asp Val Cys Met Gln Asp Leu Pro Val Ile Phe  
 420 425 430  
 Ala Ile Asp Arg Ala Gly Leu Ala Tyr Gly Asp Gly Arg Ser His His  
 435 440 445  
 Gly Ile Tyr Asp Met Ser Phe Leu Arg Ala Met Pro Gln Met Ile Ile  
 450 455 460  
 Cys Gln Pro Arg Ser Gln Val Val Phe Gln Gln Leu Leu Tyr Ser Ser  
 465 470 475 480  
 Leu His Trp Ser Ser Pro Ser Ala Ile Arg Tyr Pro Asn Ile Pro Ala  
 485 490 495  
 Pro His Gly Asp Pro Leu Thr Gly Asp Pro Asn Phe Leu Arg Ser Pro  
 500 505 510

Gly Asn Ala Glu Thr Leu Ser Gln Gly Glu Asp Val Leu Ile Ile Ala  
           515                          520                          525  
 Leu Gly Thr Leu Cys Phe Thr Ala Leu Ser Ile Lys His Gln Leu Leu  
           530                          535                          540  
 Ala Tyr Gly Ile Ser Ala Thr Val Val Asp Pro Ile Phe Ile Lys Pro  
 545                          550                          555                          560  
 Phe Asp Asn Asp Leu Phe Ser Leu Leu Leu Met Ser His Ser Lys Val  
                           565                          570                          575  
 Ile Thr Ile Glu Glu His Ser Ile Arg Gly Gly Leu Ala Ser Glu Phe  
                           580                          585                          590  
 Asn Asn Phe Val Ala Thr Phe Asn Phe Lys Val Asp Ile Leu Asn Phe  
                           595                          600                          605  
 Ala Ile Pro Asp Thr Phe Leu Ser His Gly Ser Lys Glu Ala Leu Thr  
           610                          615                          620  
 Lys Ser Ile Gly Leu Asp Glu Ser Ser Met Thr Asn Arg Ile Leu Thr  
 625                          630                          635                          640  
 His Phe Asn Phe Arg Ser Lys Lys Gln Thr Val Gly Asp Val Arg Val  
                           645                          650                          655

<210> 1062  
 <211> 89  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 1062  
 Phe Gly Ser Leu Met Val Glu Ile His His Lys Asp Pro Ser Leu Lys  
 1                          5                          10                          15  
 Lys Leu Phe Ala Leu Gln Gln Ser Leu Glu Thr Leu Asn Ser Leu Ser  
           20                          25                          30  
 Asp Ile Val Ala Thr Tyr Glu Ala Met Phe Ser Leu Ile Tyr Glu Gly  
           35                          40                          45  
 Leu Asn Lys Ala Leu Arg Lys Asp Gln Leu Cys Tyr Leu Leu Ser Val  
 50                          55                          60  
 Asn Ser Lys Gly Glu Leu Lys Ser Pro Ser Gly Asp Pro Ile Val  
 65                          70                          75                          80  
 Gln Thr Phe Pro Ile His Pro His His  
                           85

<210> 1063  
 <211> 559  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 1063  
 Arg Gly Phe Pro Val Met Ser Ser Pro Pro Gln Ala Val Ala Ser Leu  
 1                          5                          10                          15  
 Thr Glu Arg Ile Lys Thr Leu Leu Glu Ser Asn Phe Cys Gln Ile Ile  
           20                          25                          30  
 Val Lys Gly Glu Leu Ser Asn Val Ser Leu Gln Pro Ser Gly His Leu  
           35                          40                          45  
 Tyr Phe Gly Ile Lys Asp Ser Gln Ala Phe Leu Asn Gly Ala Phe Phe  
 50                          55                          60  
 His Phe Lys Ser Lys Tyr Tyr Asp Arg Lys Pro Lys Asp Gly Asp Ala  
 65                          70                          75                          80  
 Val Ile Ile His Gly Lys Leu Ala Val Tyr Ala Pro Arg Gly Gln Tyr  
                           85                          90                          95  
 Gln Ile Val Ala His Ala Leu Val Tyr Ala Gly Glu Gly Asp Leu Leu  
           100                          105                          110  
 Gln Lys Phe Glu Glu Thr Lys Arg Leu Thr Ala Glu Gly Tyr Phe  
           115                          120                          125

Ala Thr Glu Lys Lys Lys Pro Leu Pro Phe Ala Pro Gln Cys Ile Gly  
 130 135 140  
 Val Ile Thr Ser Pro Thr Gly Ala Val Ile Gln Asp Ile Leu Arg Val  
 145 150 155 160  
 Leu Ser Arg Arg Ala Arg Asn Tyr Lys Ile Leu Val Tyr Pro Val Thr  
 165 170 175  
 Val Gln Gly Asn Ser Ala Ala His Glu Ile Ser Lys Ala Ile Glu Val  
 180 185 190  
 Met Asn Ala Glu Asn Leu Ala Asp Val Leu Ile Ile Ala Arg Gly Gly  
 195 200 205  
 Gly Ser Ile Glu Asp Leu Trp Ala Phe Asn Glu Glu Ile Leu Val Lys  
 210 215 220  
 Ala Ile His Ala Ser Thr Ile Pro Ile Val Ser Ala Val Gly His Glu  
 225 230 235 240  
 Thr Asp Tyr Thr Leu Cys Asp Phe Ala Ser Asp Val Arg Ala Pro Thr  
 245 250 255  
 Pro Ser Ala Ala Glu Ile Val Cys Lys Ser Ser Glu Glu Gln Val  
 260 265 270  
 Gln Val Phe Glu Gly Tyr Leu Arg His Leu Leu Ser His Ser Arg Gln  
 275 280 285  
 Leu Leu Thr Ser Lys Lys Gln Gln Leu Leu Pro Trp Arg Arg Phe Leu  
 290 295 300  
 Asp Arg Ala Glu Phe Tyr Thr Thr Ala Gln Gln Leu Asp Ser Ile  
 305 310 315 320  
 Glu Ile Ala Ile Gln Lys Gly Val Gln Gly Lys Ile His Glu Ser Lys  
 325 330 335  
 Gln Arg Tyr Asp Asn Ile Ser Arg Trp Leu Gln Gly Asp Leu Val Ser  
 340 345 350  
 Arg Met Thr Cys Arg Leu Gln Ser Leu Lys Lys Met Leu Ser Gln Ala  
 355 360 365  
 Leu Ser His Lys Ala Leu Ser Leu Gln Val Arg Cys His Gln Leu Lys  
 370 375 380  
 Lys Ser Leu Thr Tyr Pro Arg Gln Ile Gln Gln Ala Ser Gln Lys Leu  
 385 390 395 400  
 Ser Pro Trp Arg Gln Gln Leu Asp Thr Leu Ile Ser Arg Arg Leu His  
 405 410 415  
 Tyr Gln Lys Glu Glu Tyr Phe His Lys His Thr Arg Leu Lys His Ala  
 420 425 430  
 His Asn Val Leu Glu Gln Gln Leu Arg Ser His Val Gln Lys Leu Glu  
 435 440 445  
 Leu Leu Gly Arg Arg Leu Ser Arg Gly Cys Glu Leu Asn Leu Gln Asn  
 450 455 460  
 Gln Lys Ile Ala Tyr Ala Asn Val Lys Glu Thr Leu Ala Thr Ile Leu  
 465 470 475 480  
 Glu Arg Arg Tyr Glu Asn Ser Val Ala Arg Tyr Ser Ala Leu Lys Glu  
 485 490 495  
 Gln Leu His Ser Leu Asn Pro Lys Asn Val Leu Lys Arg Gly Tyr Ala  
 500 505 510  
 Met Leu Phe Asp Phe Asn Glu Asn Ser Ala Met Ile Ser Val Asp Ser  
 515 520 525  
 Leu Gln Glu Asn Ala Arg Val Arg Ile Gln Leu Gln Asp Gly Glu Ala  
 530 535 540  
 Ile Leu Thr Val Thr Asn Ile Glu Ile Cys Lys Leu Ile Lys Gly  
 545 550 555

<210> 1064

<211> 271

<212> PRT

<213> Chlamydia pneumoniae

<400> 1064

Phe	Cys	Arg	Glu	Ser	Met	Arg	Ile	Lys	Phe	Arg	Glu	Asn	Lys	Glu	Arg
1				5					10					15	
Lys	Met	Thr	Arg	Gln	Ser	Tyr	Val	Leu	Gly	Asn	Trp	Lys	Met	His	Lys
			20					25					30		
Thr	Ile	Gln	Glu	Ala	Lys	Glu	Tyr	Val	Gln	Thr	Leu	Ala	Ser	Leu	Leu
		35					40					45			
Gln	Gly	Glu	Pro	Leu	Ser	Cys	Thr	Ile	Gly	Ile	Ala	Ser	Pro	Phe	Thr
	50					55					60				
Ser	Leu	Arg	Ala	Ile	His	Glu	Val	Ile	Asn	Thr	Thr	Gly	Ala	Phe	Leu
65					70				75					80	
Trp	Leu	Gly	Ala	Gln	Asn	Val	His	Pro	Glu	Leu	Ser	Gly	Ala	Phe	Thr
			85					90					95		
Gly	Glu	Ile	Ser	Leu	Pro	Met	Leu	Lys	Glu	Val	Gly	Val	Glu	Phe	Val
		100						105					110		
Leu	Val	Gly	His	Ser	Glu	Arg	Arg	His	Ile	Phe	Gly	Glu	Ser	Asp	Ala
		115					120					125			
Phe	Ile	Ala	Ser	Lys	Val	Lys	Ser	Val	Ala	Gln	Ala	Gly	Leu	Val	Pro
	130					135					140				
Val	Leu	Cys	Val	Gly	Glu	Ser	Leu	Glu	Val	Arg	Glu	Glu	Gly	Lys	Ala
145					150				155					160	
His	Gln	Val	Ile	Lys	Lys	Gln	Leu	Leu	Leu	Gly	Leu	Glu	Gln	Met	Asp
				165				170						175	
Asn	Gly	Ser	Glu	Phe	Leu	Ile	Ala	Tyr	Glu	Pro	Val	Trp	Ala	Ile	Gly
		180						185					190		
Thr	Gly	Lys	Val	Ala	Glu	Ala	Ser	Asp	Val	Gln	Asp	Ile	His	Met	Phe
		195					200					205			
Cys	Arg	Glu	Val	Val	Ala	Glu	Arg	Phe	Ser	Glu	Ala	Thr	Ala	Glu	Glu
	210					215					220				
Ile	Ser	Ile	Leu	Tyr	Gly	Gly	Ser	Val	Lys	Val	Asp	Asn	Ala	Gln	Arg
225					230				235					240	
Phe	Gly	Gln	Cys	Ser	Asp	Val	Asp	Gly	Leu	Leu	Val	Gly	Gly	Ala	Ser
			245					250						255	
Leu	Glu	Gly	Gln	Ser	Phe	Phe	Glu	Val	Ala	Lys	Asn	Phe	Asn	Val	
		260					265						270		

<210> 1065  
 <211> 60  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 1065

Phe	Val	Arg	Val	Met	Arg	Phe	Phe	Cys	Leu	Phe	Phe	Leu	Gly	Phe	Leu
1				5					10					15	
Gly	Ser	Phe	His	Cys	Val	Ala	Glu	Asp	Lys	Gly	Val	Asp	Leu	Phe	Gly
			20					25					30		
Val	Trp	Asp	Asp	Asn	Gln	Ile	Thr	Glu	Cys	Asp	Asp	Ser	Tyr	Met	Thr
		35					40					45			
Glu	Gly	Arg	Glu	Glu	Val	Glu	Lys	Val	Val	Asp	Ala				
	50					55					60				

<210> 1066  
 <211> 71  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 1066

Arg	His	Arg	Leu	Gly	Arg	His	Arg	Arg	Thr	Ser	Asp	Pro	Cys	Phe	Leu
1				5					10					15	
Phe	Tyr	Phe	Ser	Ile	Pro	Glu	Glu	Ser	Leu	Pro	Pro	Asp	Ser	Cys	Arg
			20					25					30		

Leu Asn Gln Met Pro Lys His Glu His Leu Pro Ser Ile Leu Leu Lys  
           35                          40                          45  
 Lys Pro Ile Ile Asp Tyr Leu Lys Ile Thr Ser Ile Tyr Glu Lys Ala  
           50                          55                          60  
 Ile Phe Asn Thr Gly Leu Pro  
 65                          70

<210> 1067  
 <211> 119  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 1067  
 Ser Met Ser Leu Asn Lys Glu Ile Gly Met Thr Val Leu Phe Tyr Ala  
   1                          5                          10                          15  
 Phe Leu Phe Ile Phe Leu Phe Leu Cys Val Ile Leu Cys Gly Leu Ile  
           20                          25                          30  
 Leu Val Gln Glu Ser Lys Ser Met Gly Leu Gly Ser Ser Phe Gly Val  
           35                          40                          45  
 Asp Ser Gly Asp Ser Val Phe Gly Val Ser Thr Pro Asp Ile Leu Lys  
           50                          55                          60  
 Lys Val Thr Ser Trp Cys Ala Val Ala Phe Cys Ile Gly Cys Leu Leu  
 65                          70                          75                          80  
 Leu Ser Phe Ser Thr Asn Leu Leu Gly Lys Lys Leu Asp Ala Lys Glu  
                           85                          90                          95  
 Phe Leu Leu Pro Ala Ala Glu Glu Ser Asp Thr Gln Ala Ser Ser Glu  
                           100                          105                          110  
 Ser Val Glu Ala Asp Glu Ser  
           115

<210> 1068  
 <211> 206  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 1068  
 Ile Gln Val Leu Val Val Arg Asp Phe Phe Thr Glu Leu Cys Gln Ala  
   1                          5                          10                          15  
 His Val Gln Thr Met Ile Arg Arg Leu Glu Tyr Tyr Gly Ser Pro Ile  
           20                          25                          30  
 Leu Arg Lys Lys Ser Ser Pro Ile Ala Glu Ile Thr Asp Glu Ile Arg  
           35                          40                          45  
 Asn Leu Val Ser Asp Met Cys Asp Thr Met Glu Ala His Arg Gly Val  
           50                          55                          60  
 Gly Leu Ala Ala Pro Gln Val Gly Lys Asn Val Ser Leu Phe Val Met  
 65                          70                          75                          80  
 Cys Val Asp Arg Glu Thr Glu Asp Gly Glu Leu Ile Phe Ser Glu Ser  
                           85                          90                          95  
 Pro Arg Val Phe Ile Asn Pro Val Leu Ser Asp Pro Ser Glu Thr Pro  
                           100                          105                          110  
 Ile Ile Gly Lys Glu Gly Cys Leu Ser Ile Pro Gly Leu Arg Gly Glu  
           115                          120                          125  
 Val Phe Arg Pro Gln Lys Ile Thr Val Thr Ala Met Asp Leu Asn Gly  
           130                          135                          140  
 Lys Ile Phe Thr Glu His Leu Glu Gly Phe Thr Ala Arg Ile Ile Met  
 145                          150                          155                          160  
 His Glu Thr Asp His Leu Asn Gly Val Leu Tyr Ile Asp Leu Met Glu  
                           165                          170                          175  
 Glu Pro Lys Asp Pro Lys Lys Phe Lys Ala Ser Leu Glu Lys Ile Lys  
                           180                          185                          190

Arg Arg Tyr Asn Thr His Leu Ser Lys Glu Glu Leu Val Ser  
 195 200 205

<210> 1069  
 <211> 301  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 1069  
 Met Ser Cys Met Pro Pro Phe Val Val Thr Leu Thr Thr Ser Ala  
 1 5 10 15  
 Gln Asn Asn Leu Arg Asp Gln Leu Lys Glu Lys Asn Phe Ile Phe Ser  
 20 25 30  
 Gln Pro Gln Asn Thr Val Phe Gln Ala Arg Ser Asn Thr Val Thr Cys  
 35 40 45  
 Thr Leu Tyr Pro Ser Gly Lys Leu Val Ile Gln Gly Lys Gly Ser Glu  
 50 55 60  
 Glu Phe Ile Glu Phe Phe Leu Glu Pro Glu Ile Leu His Thr Phe Thr  
 65 70 75 80  
 His Ala Arg Val Glu Gln Asp Leu Arg Pro Arg Leu Gly Val Asp Glu  
 85 90 95  
 Ser Gly Lys Gly Asp Phe Phe Gly Pro Leu Cys Ile Ala Ala Val Tyr  
 100 105 110  
 Ala Ser Asn Ala Glu Ile Leu Lys Lys Leu Tyr Glu Asn Lys Val Gln  
 115 120 125  
 Asp Ser Lys Asn Leu Lys Asp Thr Lys Ile Ala Ser Leu Ala Arg Ile  
 130 135 140  
 Ile Arg Ser Leu Cys Val Cys Asp Val Ile Ile Leu Tyr Pro Glu Lys  
 145 150 155 160  
 Tyr Asn Glu Leu Tyr Gly Lys Phe Gln Asn Leu Asn Thr Leu Leu Ala  
 165 170 175  
 Trp Ala His Ala Thr Val Ile Asn Asn Leu Ala Pro Lys Pro Ala Gly  
 180 185 190  
 Asp Val Phe Ala Ile Ser Asp Gln Phe Ala Ala Ser Glu Tyr Thr Leu  
 195 200 205  
 Leu Lys Ala Leu Gln Lys Lys Glu Thr Asp Ile Thr Leu Ile Gln Lys  
 210 215 220  
 Pro Arg Ala Glu Gln Asp Val Val Val Ala Ala Ala Ser Ile Leu Ala  
 225 230 235 240  
 Arg Asp Ala Phe Val Gln Ser Ile Gln Lys Leu Glu Glu Gln Tyr Gln  
 245 250 255  
 Val Gln Leu Pro Lys Gly Ala Gly Phe Asn Val Lys Ala Ala Gly Arg  
 260 265 270  
 Glu Ile Ala Lys Gln Arg Gly Lys Glu Leu Leu Ala Lys Ile Ser Lys  
 275 280 285  
 Thr His Phe Lys Thr Phe Asp Glu Ile Cys Ser Gly Lys  
 290 295 300

<210> 1070  
 <211> 145  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 1070  
 Val Ile Met Gln Glu His Ile His Lys Glu Leu Leu His Leu Gly Glu  
 1 5 10 15  
 Ile Phe Arg Ser Ser Arg Glu Ser Gln Ser Leu Ser Leu Lys Asp Val  
 20 25 30  
 Glu Ala Ala Thr Ser Ile Arg Tyr Ser Cys Leu Glu Ala Ile Glu Gln  
 35 40 45



Gly Cys Leu Gly Lys Leu Ile Ser Pro Val Tyr Ala Gln Gly Phe Ile  
 50 55 60  
 Lys Lys Tyr Ala Thr Tyr Leu Gly Leu Asp Gly Asp Ser Ile Leu Gln  
 65 70 75 80  
 Glu His Pro Tyr Val Met Lys Ile Phe Lys Glu Phe Ser Asp His Asn  
 85 90 95  
 Met Glu Met Leu Leu Asp Leu Glu Ser Met Gly Gly Arg Asn Ser Pro  
 100 105 110  
 Glu Arg Ala Ile His Ser Trp Ser Asn Leu Trp Trp Ala Gly Leu Ile  
 115 120 125  
 Ile Ile Gly Gly Ile Met Val Trp Trp Leu Gly Ser Leu Phe Ser Ile  
 130 135 140  
 Phe  
 145

<210> 1071  
 <211> 460  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 1071  
 Arg Arg Ser Leu Met Thr Phe Pro Cys Gly Asn Cys Asn Cys Tyr Tyr  
 1 5 10 15  
 Arg Glu Thr Pro Pro Pro Asn Pro Gly Gly Glu Asp Ile Pro Leu Gln  
 20 25 30  
 Glu Gly Gly Gln Ser Gly Ser Gln Gly Gly Arg Val Ile Thr Gln Gln  
 35 40 45  
 Pro Gly Thr Gly Gly Arg Glu Met Gly Ile Ser Leu Gly Ser Asp Asn  
 50 55 60  
 Val Leu Gly Met Val Glu Gln Ala Gly Ser Leu Leu Asn Asn Leu Leu  
 65 70 75 80  
 Asp Ser Ala Arg Met Gln Arg Leu Gly His Tyr Cys Tyr Arg Thr Gly  
 85 90 95  
 Thr Pro Trp Cys Arg Glu His Cys Pro Gly Phe Leu Gln Trp Ile Trp  
 100 105 110  
 Gly Gly Cys Cys Ala Cys Cys Leu Glu Thr Val Asp Asp Pro Asp Asn  
 115 120 125  
 Pro Ser Ala Gln Phe Leu Gln Gln Leu Ile Gln Gln Tyr Gly Pro Ile  
 130 135 140  
 Cys Val Gly Met Ser Phe Gln Gln Leu Pro His Cys Thr Gln Lys Ile  
 145 150 155 160  
 Glu Gln Gly Glu Pro Leu Gly Asp Gly Asp Lys Gln Glu Val Glu Asn  
 165 170 175  
 Gly Cys Lys Leu His Arg Glu Leu Leu Lys Ala Ala Gln Pro Arg Cys  
 180 185 190  
 Met Gly Glu Ser Leu Val Lys Leu Gln Asn Asn Gly Leu Gly Glu  
 195 200 205  
 Asp Met Gln Gln Thr Pro Pro Trp Ser Leu Ile Leu Gln Ala Val Ser  
 210 215 220  
 Glu Gly Ala Leu Ser Phe Val Thr Ser Ser Asp Asn Pro Pro Thr Cys  
 225 230 235 240  
 Trp Ile Leu Gln Pro Glu Gln Gln Pro Cys Pro Pro Pro Pro Thr Asp  
 245 250 255  
 Glu Glu Gln Leu Gln Gly Ala Val Gly Gly Ala Pro Ala Pro Gln Gln  
 260 265 270  
 Lys Lys His Pro Ala Gln Glu Cys Arg Val Thr Cys Lys Leu Asn Phe  
 275 280 285  
 Arg Thr Leu Leu Gln Lys Leu Ser Arg Leu Glu Val Leu Ser Leu Glu  
 290 295 300  
 Ser Gly Tyr Lys Gly Pro Leu Gly Gln Ala Ala Lys Gln Ile Val Asp  
 305 310 315 320

Leu Ile Lys Lys Ser Leu Lys Arg Leu Val Ala Ser Asp Leu Ala Thr  
                             325                            330                            335  
 Phe Leu Gly Pro Gly Ile Gly Leu Ser Leu Glu Ser Gln Val Phe Glu  
                             340                            345                            350  
 Val Leu Val Leu Leu Cys Leu Leu Ser Lys Gly Tyr Leu Pro Leu Asp  
                             355                            360                            365  
 Pro Leu His Pro Glu Gln Thr Val Leu Asp Pro Arg Val Gln Gly Pro  
                             370                            375                            380  
 Trp Gln Arg Ile Leu Arg Lys Val Leu Val Thr Thr Thr Ala Gly Glu  
 385                            390                            395                            400  
 Asn Ile Trp Arg Gln Thr Gln Gly Glu Ala Pro Arg Gln Ala Pro Pro  
                             405                            410                            415  
 Pro Pro Asp Pro Trp Asp Asp Asp Glu Ile Glu Arg Asp Gly Ile Val  
                             420                            425                            430  
 Thr Gly Gly Gly Phe Gly Ile Pro Cys Gln Cys Leu Arg Cys Trp Arg  
                             435                            440                            445  
 Lys Leu Pro Thr Glu Lys Arg Pro Asn Arg Trp Leu  
                             450                            455                            460

<210> 1072

<211> 484

<212> PRT

<213> Chlamydia pneumoniae

<400> 1072

Lys Gly Thr Thr Met Val Cys Pro Asn Asn Ser Trp Phe Arg Met Cys  
 1                            5                            10                            15  
 Gly Asn Phe Asn Cys Glu Trp Val Glu Val Thr Thr Thr Glu Glu Thr  
                             20                            25                            30  
 Thr Arg Gln Ser Ala Ser Asp Ile Ser Glu Glu Ala Gly Ser Ser Gly  
                             35                            40                            45  
 Gly Ala Ala Pro Ile Thr Thr Gln Pro Thr Lys Ile Thr Lys Val Glu  
                             50                            55                            60  
 Lys Arg Val Gln Phe Asn Thr Ala Gln Gly Asp Glu Ser Thr Ile His  
 65                            70                            75                            80  
 Met Ile Gln Glu Ala Gly Glu Leu Val Asp Ser Ile Leu Ser His Arg  
                             85                            90                            95  
 Arg Thr Gln Gly Cys Thr Glu Tyr Cys Tyr Asp Ser Tyr Ala Thr Gly  
                             100                            105                            110  
 Cys Gly Gln Arg Cys Gly Ser Phe Gly Arg Leu Ile Cys Gly Thr Tyr  
                             115                            120                            125  
 Lys Ala Cys Cys Leu Asp Arg Glu Asp Asn Gln Val Ala Gly Leu Val  
                             130                            135                            140  
 His Glu Cys Glu Gln Thr His Gly Pro Ile Ala Val Ala Leu Ala Ala  
 145                            150                            155                            160  
 Lys Thr Met Gly Leu Asn Leu Met Glu Leu Val Glu Lys Asn Thr Ile  
                             165                            170                            175  
 Leu Ser Glu Glu Gln Lys Asn Glu Phe Arg Gln His Cys Ser Glu Ala  
                             180                            185                            190  
 Lys Thr Gln Leu Tyr Gly Thr Met Gln Ser Leu Ser Gln Asn Phe Phe  
                             195                            200                            205  
 Leu Glu Gly Val Asn Ser Ile Arg Glu Arg Gly Leu Asp Asp Ser Leu  
                             210                            215                            220  
 Val Gln Ala Val Leu Ser Phe Ile Ala Thr Arg Ser Trp Glu Lys Thr  
 225                            230                            235                            240  
 Ile Glu Ser Glu Glu Ala Ser Gly Thr Ser Ser Ala Ser Asn Ser Thr  
                             245                            250                            255  
 Arg Ile Pro Ala Cys Tyr Ile Leu Asn Thr Ser Pro Leu Thr Thr Ser  
                             260                            265                            270  
 Arg Leu Ser Cys Gly Ser Arg Asp Ala Arg Arg Pro Ser Ser Val Gly  
                             275                            280                            285

Ala Glu Pro Gln Tyr Val Ala Lys Lys Tyr Asn Asp Asn Gly Met Ala  
 290 295 300  
 Arg Gln Leu Gly Lys Ile Gln Val Thr Asn Leu Lys Thr Gly Asp Phe  
 305 310 315 320  
 Ser Ala Leu Gly Pro Phe Gly Leu Leu Ile Val Lys Met Leu Asn Ser  
 325 330 335  
 Phe Leu Leu Ser Ala Ser Gln Ser Thr Ser Ser Ile Leu Lys His Thr  
 340 345 350  
 Gly Gly Glu Ile Cys Tyr Thr Cys Pro Asn Phe Arg Asp Ile Val Val  
 355 360 365  
 Leu Leu Met Leu Ala Ile Gly Tyr Cys Pro Ala Asn Thr Asp Glu Thr  
 370 375 380  
 Ser Val Val Asp Ile His Met Ile Asp Asp Pro Ile Met Thr Ile Phe  
 385 390 395 400  
 Tyr Arg Leu Gln Tyr Ser Tyr Arg Thr Gly Lys Thr Ser Ala Ser Phe  
 405 410 415  
 Leu Lys Lys Lys Pro Ser Leu Val Arg Gln Glu Ser Leu Asp Cys Pro  
 420 425 430  
 Thr Pro Ala Glu Ser Val Pro Leu Met Ser Ser Leu Glu Glu Asp  
 435 440 445  
 Glu Asn Glu Asp Asp Asp Glu Asp Gly Asn Leu Ala Tyr Gln Gln Arg  
 450 455 460  
 Ile Leu Glu Cys Ser Gly His Leu Gln Thr Leu Phe Leu Gly Ile Lys  
 465 470 475 480  
 Ile Asn Lys Glu

<210> 1073  
 <211> 304  
 <212> PRT  
 <213> Chlamydia pneumoniae

<400> 1073  
 Lys Lys Asp Tyr Ile Leu His Ala Asn Trp Cys Cys Trp Lys Gln Met  
 1 5 10 15  
 Leu Lys Ile Gln Lys Lys Arg Met Cys Val Ser Val Val Ile Thr Val  
 20 25 30  
 Gly Ala Ile Val Gly Phe Phe Asn Ser Ala Asp Ala Ala Pro Lys Lys  
 35 40 45  
 Lys Lys Ile Pro Ile Gln Ile Leu Tyr Ser Phe Thr Lys Val Ser Ser  
 50 55 60  
 Tyr Leu Lys Asn Glu Asp Ala Ser Thr Ile Phe Cys Val Asp Val Asp  
 65 70 75 80  
 Arg Gly Leu Leu Gln His Arg Tyr Leu Gly Ser Pro Gly Trp Gln Glu  
 85 90 95  
 Thr Arg Arg Arg Gln Leu Phe Lys Ser Leu Glu Asn Gln Ser Tyr Gly  
 100 105 110  
 Asn Glu Arg Leu Gly Glu Glu Thr Leu Ala Ile Asp Ile Phe Arg Asn  
 115 120 125  
 Lys Glu Cys Leu Glu Ser Glu Ile Pro Glu Gln Met Glu Ala Ile Leu  
 130 135 140  
 Ala Asn Ser Ser Ala Leu Val Leu Gly Ile Ser Ser Phe Gly Ile Thr  
 145 150 155 160  
 Gly Ile Pro Ala Thr Leu His Ser Leu Leu Arg Gln Asn Leu Ser Phe  
 165 170 175  
 Gln Lys Arg Ser Ile Ala Ser Glu Ser Phe Leu Leu Lys Ile Asp Ser  
 180 185 190  
 Ala Pro Ser Asp Ala Ser Val Phe Tyr Lys Gly Val Leu Phe Arg Gly  
 195 200 205  
 Glu Thr Ala Ile Val Asp Ala Leu Ser Gln Leu Phe Ala Gln Leu Asp  
 210 215 220

Leu Ser Pro Lys Lys Ile Ile Phe Leu Gly Glu Asp Pro Glu Val Val  
 225 230 235 240  
 Gln Ala Val Gly Ser Ala Cys Ile Gly Trp Gly Met Asn Phe Leu Gly  
 245 250 255  
 Leu Val Tyr Tyr Pro Ala Gln Glu Ser Leu Phe Ser Tyr Val His Pro  
 260 265 270  
 Tyr Ser Thr Ala Thr Glu Leu Gln Glu Ala Gln Gly Leu Gln Val Ile  
 275 280 285  
 Ser Asp Glu Val Ala Gln Leu Thr Leu Asn Ala Leu Pro Lys Met Asn  
 290 295 300

<210> 1074

<211> 273

<212> PRT

<213> Chlamydia pneumoniae

<400> 1074

Met Arg Arg Tyr Leu Phe Met Val Leu Ala Leu Cys Leu Tyr Arg Ala  
 1 5 10 15  
 Ala Pro Leu Glu Ala Val Val Ile Lys Ile Thr Asp Ala Gln Ala Val  
 20 25 30  
 Leu Lys Phe Ala Arg Glu Lys Thr Leu Val Cys Phe Asn Ile Glu Asp  
 35 40 45  
 Thr Val Val Phe Pro Lys Gln Met Val Gly Gln Ser Ala Trp Leu Tyr  
 50 55 60  
 Asn Arg Glu Leu Asp Leu Lys Thr Thr Leu Ser Glu Glu Gln Ala Arg  
 65 70 75 80  
 Glu Gln Ala Phe Leu Glu Trp Met Gly Ile Ser Phe Leu Val Asp Tyr  
 85 90 95  
 Glu Leu Val Ser Ala Asn Leu Arg Asn Val Leu Thr Gly Leu Ser Leu  
 100 105 110  
 Lys Arg Ser Trp Val Leu Gly Ile Ser Gln Arg Pro Val His Leu Ile  
 115 120 125  
 Lys Asn Thr Leu Arg Ile Leu Arg Ser Phe Asn Ile Asp Phe Thr Ser  
 130 135 140  
 Cys Pro Ala Ile Cys Glu Asp Gly Trp Leu Ser His Pro Thr Lys Asp  
 145 150 155 160  
 Thr Thr Phe Asp Gln Ala Met Ala Ile Glu Lys Asn Ile Leu Phe Val  
 165 170 175  
 Gly Ser Leu Lys Asn Gly Gln Pro Met Asp Ala Ala Leu Glu Val Leu  
 180 185 190  
 Leu Ser Gly Ile Ser Ser Pro Pro Ser Gln Ile Ile Tyr Val Asp Gln  
 195 200 205  
 Asp Ala Glu Arg Leu Arg Ser Ile Gly Ala Phe Cys Lys Lys Ala Asn  
 210 215 220  
 Ile Tyr Phe Ile Gly Met Leu Tyr Thr Pro Ala Lys Gln Arg Val Glu  
 225 230 235 240  
 Ser Tyr Asn Pro Lys Leu Thr Ala Ile Gln Trp Ser Gln Ile Arg Lys  
 245 250 255  
 Asn Leu Ser Asp Glu Tyr Tyr Glu Ser Leu Leu Ser Tyr Val Lys Ser  
 260 265 270  
 Lys